341-772
204 JAN 8 1981
594.C.47
FEM1.209:480
2405

FLOOD INSURANCE STUDY

OCLC
7138203
2-19-81

COLLIN COUNTY, TEXAS
UNINCORPORATED AREAS

SEPTEMBER 16, 1980

federal emergency management agency
federal insurance administration

COMMUNITY NUMBER - 480130

TABLE OF CONTENTS

		Page
1.0	INTRODUCTION	1
	1.1 Purpose of Study	1
	1.2 Authority and Acknowledgments	1
	1.3 Coordination	1
2.0	AREA STUDIED	2
	2.1 Scope of Study	2
	2.2 Community Description	2
	2.3 Principal Flood Problems	4
	2.4 Flood Protection Measures	4
3.0	ENGINEERING METHODS	4
	3.1 Hydrologic Analyses	4
	3.2 Hydraulic Analyses	8
4.0	FLOOD PLAIN MANAGEMENT APPLICATIONS	12
	4.1 Flood Boundaries	12
	4.2 Floodways	12
5.0	INSURANCE APPLICATION	24
	5.1 Reach Determinations	24
	5.2 Flood Hazard Factors	25
	5.3 Flood Insurance Zones	25
	5.4 Flood Insurance Rate Map Description	26

TABLE OF CONTENTS - continued

		Page
6.0	OTHER STUDIES	26
7.0	LOCATION OF DATA	26
8.0	BIBLIOGRAPHY AND REFERENCES	26

FIGURES

Figure 1 - Vicinity Map	3
Figure 2 - Floodway Schematic	24

TABLES

Table 1 - Summary of Discharges	5 - 8
Table 2 - Summary of Elevations	9 - 12
Table 3 - Floodway Data	14-23
Table 4 - Flood Insurance Zone Data	27-31

EXHIBITS

Exhibit 1 - Flood Profiles	
Cottonwood Creek - East Fork	Panels 01P-02P
Rush Creek	Panels 03P-07P
Franklin Branch	Panels 08P-09P
Unnamed Tributary to Wilson Creek	Panels 10P-12P
Rutherford Branch	Panels 13P-14P
Wilson Creek	Panels 15P-21P
Stream 5B13	Panel 22P
Tributary to Rowlett Creek	Panel 23P
White Rock Creek - East	Panels 24P-28P
Reid Branch	Panels 29P-30P
Muddy Creek (Downstream)	Panels 31P-32P
Muddy Creek (Upstream)	Panels 33P-35P

TABLE OF CONTENTS - continued

	Page
Muddy Creek Tributary 1	Panel 36P
Muddy Creek Tributary 2	Panels 37P-38P
Stream 5B14	Panel 39P
Rowlett Creek	Panels 40P-43P
Cottonwood Creek	Panel 44P
White Rock Creek - West	Panels 45P-46P
Rush Creek - Tributary	Panels 47P-48P
Camp Creek	Panels 49P-52P
Maxwell Creek	Panels 53P-55P
Muddy Creek Tributary	Panel 56P
East Fork of the Trinity River	Panels 57P-58P
Wilson Creek (Near Fairview)	Panels 59P-60P
Sloan Creek	Panel 61P
Sabine Creek Tributary B	Panels 62P-63P

Exhibit 2 - Flood Boundary and Floodway Map Index

Exhibit 2 - Flood Boundary and Floodway Map

PUBLISHED SEPARATELY:

Flood Insurance Rate Map Index
Flood Insurance Rate Map

FLOOD INSURANCE STUDY
COLLIN COUNTY, TEXAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the unincorporated areas of Collin County, Texas, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study will be used to convert Collin County to the regular program of flood insurance by the Federal Insurance Administration (FIA). Local and regional planners will use this study in their efforts to promote sound flood plain management.

In some states or communities, flood plain management criteria or regulations may exist that are more restrictive or comprehensive than those on which these Federally-supported studies are based. These criteria take precedence over the minimum Federal criteria for purposes of regulating development in the flood plain, as set forth in the Code of Federal Regulations at 24 CFR, 1910.1 (d). In such cases, however, it shall be understood that the state (or other jurisdictional agency) shall be able to explain these requirements and criteria.

1.2 Authority and Acknowledgments

The source of authority for this Flood Insurance Study is the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were performed by Freese and Nichols, Inc./Rady and Associates, Inc. for the Federal Insurance Administration, under Contract No. H-4570. This study was completed in April 1979.

1.3 Coordination

Streams requiring detailed study were identified at a meeting attended by representatives of Freese and Nichols, Inc./Rady and Associates, Inc., and representatives of FIA in May 1978.

Contact was made with the U.S. Army Corps of Engineers (COE), Fort Worth District; U.S. Geological Survey (USGS), Water Resources Division in Fort Worth, Texas; U.S. Soil Conservation Service (SCS) in Temple, Texas; North Central Texas Council of Governments (NCTCOG), Arlington, Texas; and the Texas Department of Water Resources in Austin, Texas requesting information pertinent to the study area.

On March 10, 1980, the results of the study were reviewed at the final meeting attended by Collin County officials, the FIA, and Freese and Nichols, Inc./Rady and Associates, Inc. The study was acceptable to the county.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the unincorporated areas of Collin County, Texas. The area of study is shown on the Vicinity Map (Figure 1). The limits of detailed and approximate studies in Collin County were determined by FIA with study contractor and county consultation at the meeting in May 1978. The areas studied by detailed methods were selected with priority given to all known flood hazard areas, and areas of projected development or proposed construction for the next five years, through April 1984.

Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were agreed upon by FIA, Collin County officials and the study contractor.

Floods caused by overflow of Muddy Creek, White Rock Creek-East, Reid Branch, Rutherford Branch, Franklin Branch, Cottonwood Creek, Rush Creek, Rowlett Tributary, Wilson Tributary, Muddy Creek Tributaries, and Wilson Creek above Rutherford Branch were studied in detail under this contract. The COE, Fort Worth District, previously made detailed studies on Cottonwood Branch, Rowlett and White Rock Creek-West. Their data was used and has been incorporated into this report. Flooding on other streams in the unincorporated areas of Collin County were studied by approximate methods.

2.2 Community Description

Collin County is located in the north central part of Texas, approximately 30 miles northeast of Dallas along Interstate Highway 30. The topography of Collin County is primarily rolling prairie and mostly heavy black soil (Reference 1). The climate is moderate with an average rainfall of 38.10 inches (Reference 1). Collin County has an estimated population of 104,150 (Reference 2). The economy of the area includes farming, ranching and light industrial. The agriculture crops include cotton, sorghum, wheat and hay. Many citizens of Collin County commute into the Dallas-Fort Worth Metroplex for work.

Collin County is drained primarily by the East Fork of the Trinity River (Lake Lavon) and its tributaries. The western edge of the county has a few streams which are tributaries to the Elm Fork of the Trinity River. The eastern edge of the county is drained by tributaries of the Sabine River.

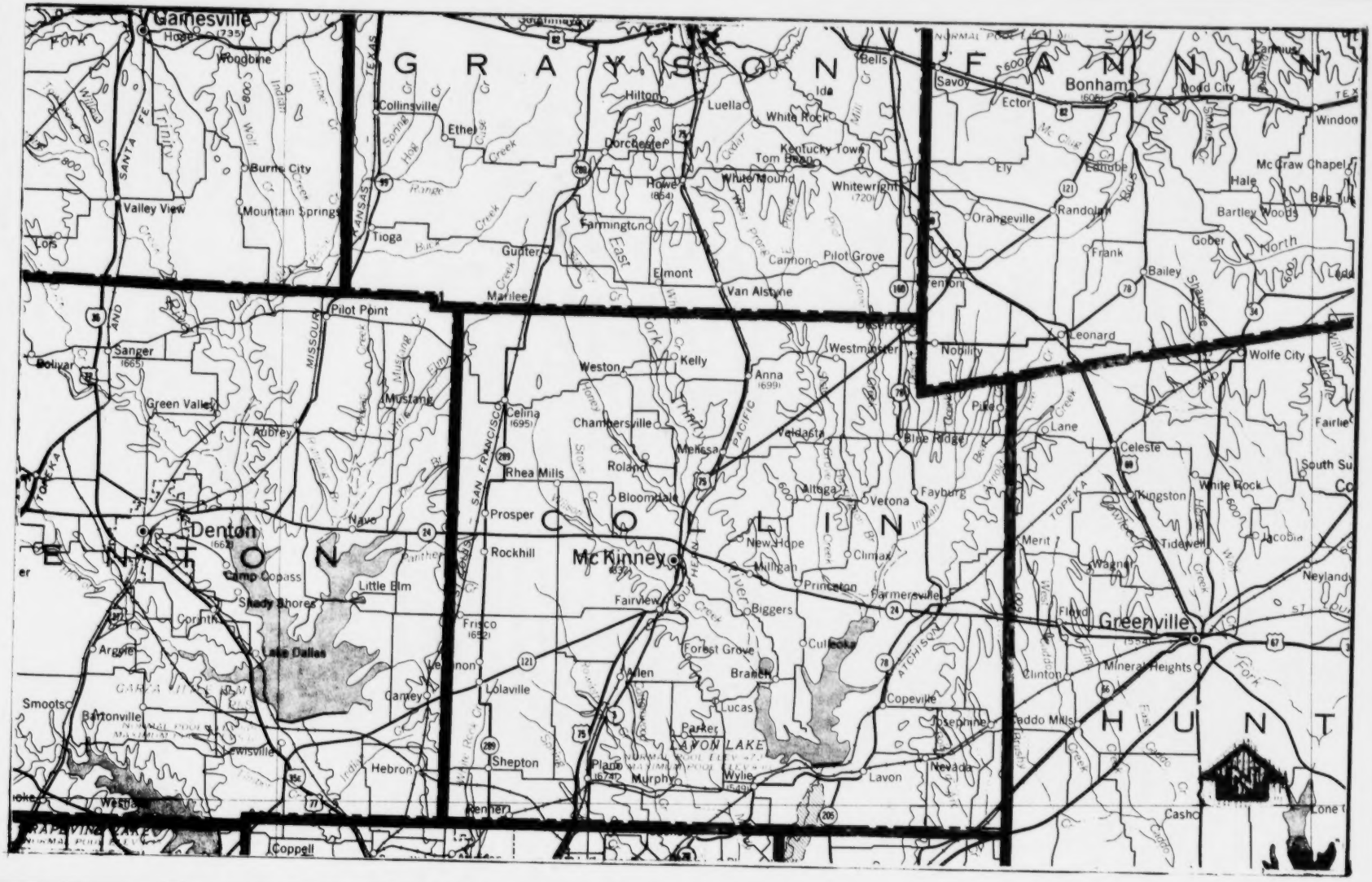


FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

APPROXIMATE SCALE

8 0 8 16 24 MILES

VICINITY MAP

2.3 Principal Flood Problems

The principal flood problems in Collin County, as reported by SCS representatives, are along the East Fork Trinity River and along Sister Grove Creek. Flooding along these two creeks is widespread rather than isolated at a few locations. Numerous SCS structures reportedly have most of the other flooding problems in Collin County under control.

2.4 Flood Protection Measures

Prior to this report the County of Collin has not had an ordinance controlling development in flood prone areas.

There are a number of dams and reservoirs in Collin County which serve as flood protection structures. The largest of these is Lake Lavon which is owned by the COE. Lake Lavon is on the East Fork Trinity River and has a total storage of approximately 921,200 acre-feet. There are numerous small dams throughout Collin County and of these, 103 are SCS structures.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equalled or exceeded once on the average during any 10-, 50-, 100-, and 500-year period (recurrence intervals), have been selected as having special significance for flood plain management and for flood insurance premium rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equalled or exceeded during any year. Although the recurrence interval represents the long term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than one year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (one percent chance of annual occurrence) in any 50 year period is about 40 percent (four in 10), and for any 90 year period, the risk increases to about 60 percent (six in 10). The analyses reported here reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish peak discharge-frequency relationships for floods of the selected recurrence intervals for each flooding source studied in detail in the community.

The hydrologic analysis for each creek used to obtain peak flood discharges for the 10-, 50-, 100-, and 500-year floods was accomplished by a computer study utilizing the U.S. Army Corps of Engineers HEC-1 computer model (Reference 3). The effect of SCS flood control structures within the drainage

basin of the study area and the resulting storage-discharge relationships were incorporated into the study. Unit hydrographs were derived based upon a log-normal distribution and incorporated into a computer study as derived by James A. Constant, U.S. Army COE.

Fifteen minute rainfall increments were used since the drainage areas involved were small resulting in short times to peak. Rainfall values were obtained from References 4 and 5. Lag times were based upon Reference 6. Infiltration rates used were obtained from the Fort Worth District, U.S. Army Corps of Engineers for clay losses as follows:

	Initial Loss (Inches)	Infiltration (inch/hr)
500-Year	0.50	0.05
100-Year	0.75	0.07
50-Year	0.84	0.10
10-Year	1.12	0.14

The Muskingum Method for channel routing was used. The total drainage areas contributing to each detailed study area are shown in Table 1, "Summary of Discharges."

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
COTTONWOOD CREEK - EAST FORK					
Mouth	1.6	2,350	3,150	3,500	4,300
RUSH CREEK					
Above confluence with East Fork Trinity River	5.2	3,700	5,500	6,250	9,200
FRANKLIN BRANCH					
Confluence with Wilson Creek	4.0	740	1,010	1,130	2,930
UNNAMED TRIBUTARY TO WILSON CREEK					
Confluence with Wilson Creek	2.0	1,020	1,400	1,560	1,900
RUTHERFORD BRANCH					
Confluence with Wilson Creek	4.0	2,940	3,990	4,520	6,780

TABLE 1 - SUMMARY OF DISCHARGES - cont.

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
WILSON CREEK					
Above FM 2478	12.7	7,440	11,250	13,060	20,000
Above Stover Creek	29.8	9,400	15,600	19,720	38,900
Above Franklin Bridge	44.4	10,730	18,800	24,640	52,000
Above Highway 75 and Jeans Creek	49.2	9,870	17,000	23,190	48,600
STREAM 5B13					
Atchison Topeka & Santa Fe Railway	0.57	1,300	1,700	1,900	2,350
TRIBUTARY TO ROWLETT CREEK					
Above confluence of Rowlett Creek	3.1	2,620	3,880	4,360	5,640
WHITE ROCK CREEK - EAST					
Downstream State Highway 546	9.8	6,940	10,530	12,100	16,300
Upstream confluence of unnamed tributary 0.76 mile southeast Winningkoff Road	6.6	5,520	8,360	9,580	12,700
Upstream confluence of Reid Branch	4.3	3,670	5,440	6,180	8,050
REID BRANCH					
Confluence with White Rock Creek East	2.3	2,430	3,560	4,030	5,300
MUDDY CREEK (Downstream)					
0.7 mile below Muddy Creek Dam (SCS #4)	12.3	1,560	2,080	3,470	7,350
0.6 mile below St. Louis Southwestern Railway	14.4	2,130	2,850	3,640	7,910
0.6 mile upstream Atchison Topeka & Santa Fe Railway	15.7	4,340	5,800	6,500	8,090
MUDDY CREEK (Upstream)					
1 mile above Turner Branch confluence	3.2	3,150	4,320	4,910	5,980
Above confluence with Turner Branch	5.3	4,540	6,290	7,130	8,770
1.1 mile below confluence with Turner Branch	7.9	6,320	8,820	10,070	12,350

TABLE 1 - SUMMARY OF DISCHARGES - cont.

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
MUDDY CREEK TRIBUTARY 1					
0.8 mile below SCS Dam #5 (above confluence with Muddy Creek)	1.9	490	650	720	880
MUDDY CREEK TRIBUTARY 2					
1 mile above Turner Branch confluence	1.2	1,670	2,250	2,530	3,070
STREAM 5B14					
Atchison, Topeka & Santa Fe Railway	0.15	350	450	500	600
ROWLETT CREEK					
Below Cottonwood Creek	71.8	21,700	39,000	45,900	59,000
Above Tributary 2D8	48.8	18,300	29,300	34,000	43,800
Above Brown Branch	43.1	18,700	29,400	33,700	43,700
1.5 miles above Parker Road	40.7	20,400	31,400	35,800	44,800
Above Highway 5	39.9	20,700	31,700	35,900	45,200
Above Russell Creek	27.7	16,800	25,000	28,100	35,200
1 mile above Russell Creek	26.3	18,400	26,900	30,500	38,500
Below West Rowlett Creek	23.6	19,000	27,600	31,000	38,700
Above West Rowlett Creek	12.3	9,300	13,500	15,300	18,900
Above State Highway 121	10.1	10,700	14,700	16,400	20,600
COTTONWOOD CREEK					
1.5 miles above Rowlett Creek	17.2	11,300	15,900	17,600	21,700
Below Tributary 2G1	13.3	12,700	18,400	20,900	26,500
0.5 mile below Highway 2170	9.2	8,200	11,300	12,600	15,900
0.5 mile above Highway 2170	7.1	7,700	10,600	11,800	14,900
Above Highway 75	5.9	6,900	9,500	10,800	13,400
0.7 mile above Highway 75	4.8	7,200	10,000	11,200	14,100
Above State Highway 121	2.92	5,200	7,200	8,100	10,100
WHITE ROCK CREEK - WEST					
Dallas-Collin County Line	27.0	16,400	23,400	26,600	34,400
Frankford Road	25.8	16,200	23,000	26,100	33,600
Atchison, Topeka & Santa Fe Railway	23.2	16,100	22,700	25,700	33,000
FM Road 544 (Park Boulevard)	20.4	15,100	21,300	24,000	30,700
Yeary Road	15.9	12,000	16,800	19,000	24,200
Thompson Road	12.0	11,400	15,800	17,800	22,600
State Highway 289 (Preston Road)	8.7	10,100	14,000	15,700	19,800
State Highway 121	3.1	4,500	6,200	6,900	8,700

TABLE 1 - SUMMARY OF DISCHARGES - cont.

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
RUSH CREEK TRIBUTARY					
At mouth	0.6	865	1,210	1,345	1,720
CAMP CREEK					
Upstream County Line (Collin and Rockwall Counties)	12.1	6,020	8,430	9,530	11,360
MAXWELL CREEK					
St. Louis Southwestern Railway	5.94	5,600	7,700	8,700	11,100
McMillen Drive	4.30	4,550	6,300	7,100	9,000
MUDDY CREEK TRIBUTARY					
At mouth	1.30	1,280	1,805	2,010	2,630
EAST FORK OF THE TRINITY RIVER					
River Mile 79.7	1.90	17,000	35,500	49,700	104,000
WILSON CREEK (Near Fairview)					
Above Sloan Creek	71.84	13,780	24,000	30,970	56,900
SLOAN CREEK					
At mouth	9.13	6,360	9,750	11,200	15,200
SABINE CREEK TRIBUTARY B					
At mouth	1.4	1,090	1,530	1,690	2,180

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of the flooding sources studied in detail in Collin County were carried out to provide estimates of the elevations of floods of the selected recurrence intervals along each of the flood sources.

Water-surface elevations of floods of the selected recurrence intervals were computed through use of the COE's HEC-2 step-backwater computer program (Reference 3). Cross sections for the backwater analyses of the streams studied were field surveyed and were located at close intervals above or below bridges and culverts in order to compute the significant backwater effects of these structures. All bridges and culverts were field checked to obtain elevation data and structural geometry.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross sections are also shown on the Flood Boundary and Floodway Map (Exhibit 3).

Channel roughness factors (Manning's "n") for these computations were assigned on the basis of field inspections of flood plain areas. Following is a list of "n" values for selected streams:

STREAM	CHANNEL	OVERBANK
Rush Creek	0.025-0.060	0.065-0.085
Rutherford Branch	0.050	0.070
White Rock Creek East	0.025-0.050	0.050-0.080
Reid Branch	0.025-0.050	0.075-0.080
Muddy Creek	0.055-0.060	0.065-0.085
Rowlett Creek	0.030-0.060	0.040-0.095
Cottonwood Creek	0.045-0.060	0.060-0.100
Rush Creek Tributary	0.025-0.055	0.060-0.070
Camp Creek	0.040	0.055-0.065
Muddy Creek Tributary	0.030-0.065	0.080

For the other streams not mentioned above, the channel roughness factors (Manning's "n") varied from 0.020-0.090 for the channel and 0.040-0.090 for the overbank areas.

Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.1 foot for floods of the selected recurrence intervals (Exhibit 1). The starting water-surface elevations were obtained by the slope-area method. All elevations used in this study are referenced to National Geodetic Vertical Datum of 1929 (NGVD); the elevation reference marks used in this study are shown and described on the maps.

For study purposes, it was assumed that no clogging would occur at bridges and constrictions and that all bridge structures would stand intact. Significant changes in this premise, imposed by differing conditions of a future flood, could alter the estimated flood limits shown on profiles and maps.

The frequency-elevation relationships of the flooding sources in Collin County are presented in Table 2, "Summary of Elevations."

TABLE 2 - SUMMARY OF ELEVATIONS

FLOODING SOURCE AND LOCATION	ELEVATION ABOVE NGVD (feet) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
COTTONWOOD CREEK - EAST FORK				
Station 194+50 (Above Whitely Road)	484.9	485.4	485.6	486.0

TABLE 2 - SUMMARY OF ELEVATIONS - cont.

FLOODING SOURCE AND LOCATION	ELEVATION ABOVE NGVD (feet) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
RUSH CREEK				
Station 14+05 (Above County Road)	454.3	454.9	455.1	455.9
FRANKLIN BRANCH				
Station 49+00 (Above Highway 380)	589.3	590.4	590.8	596.3
Station 53+20 (Above Gravel Road)	594.8	595.1	595.3	596.9
UNNAMED TRIBUTARY TO WILSON CREEK				
Station 57+70 (Above Rockhill Road)	601.2	602.4	602.9	603.8
RUTHERFORD BRANCH				
Station 31+10 (Above FM 2478)	640.4	642.8	643.1	643.9
TRIBUTARY TO ROWLETT CREEK				
Station 22+70 (Above FM 2478)	689.6	691.0	691.8	692.0
WHITE ROCK CREEK (EAST)				
Station 34+00 (Above FM 3286)	489.4	490.5	491.0	492.0
Station 156+70 (Above Winningkoff Road)	520.5	523.2	523.5	524.2
Station 168+60 (Above Blondy Jhune Road)	522.1	525.0	525.7	527.1
Station 230+80 (Above Unpaved dirt road)	548.7	550.7	551.4	552.8
Station 285+50 (Above State Highway 1378)	579.4	582.0	583.0	585.1
MUDDY CREEK (Downstream)				
Station 71+55 (Above St. Louis Southwestern Railway	496.5	497.6	498.7	503.4
MUDDY CREEK (Upstream)				
Station 287+90 (Above County Road 3.3 Mile Upstream Dam)	544.9	546.7	547.5	549.4

TABLE 2 - SUMMARY OF ELEVATIONS - cont.

FLOODING SOURCE AND LOCATION	ELEVATION ABOVE NGVD (feet) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
ROWLETT CREEK				
Station 1296+60 (Above Parner Road)	546.6	548.2	548.7	549.5
Station 1418+70 (Above Jupiter Road)	562.1	562.2	562.5	563.5
Station 1478+40 (Above Greenville Avenue)	572.3	575.2	576.0	577.7
Station 1496+50 (Above Southern Pacific Railroad)	576.4	580.1	581.5	583.4
Station 1504+90 (Above Highway 75)	578.6	582.1	583.5	585.7
Station 1600+60 (Above Alma Road)	590.3	591.4	591.7	592.6
Station 1680+35 (Above FM 2170)	605.3	607.6	608.6	610.7
Station 1750+10 (Above Rowlett Drive	619.1	621.1	621.5	622.3
Station 1817+30 (Above State Highway 121)	637.0	639.1	640.0	641.6
Station 1909+30 (Above FM 720)	665.2	667.4	668.1	669.5
1997+60 (Above County Road)	702.5	704.6	705.5	707.9
COTTONWOOD CREEK				
Station 379+00 (Above Jupiter Road)	600.7	602.9	603.8	605.9
Station 393+05 (Above Greenville Avenue)	605.3	607.9	608.9	611.4
Station 401+00 (Above Main Street)	607.4	609.9	610.9	613.7
Station 469+50 (Above Southern Pacific Railroad)	639.4	641.2	642.2	642.8
Station 488+80 (Above U.S. Highway 75)	644.3	645.9	646.6	648.0
Station 523+50 (Above Stacy Road)	652.8	654.3	654.9	655.5
Station 594+20 (Above State Highway 121)	673.9	675.7	676.2	677.4
WHITE ROCK CREEK- WEST				
Station 1582+34 (Above Atchison, Topeka & Santa Fe Railway	607.9	610.3	611.3	613.7
Station 1641+32 (Above FM 544)	621.0	622.1	622.7	624.0
Station 1677+65 (Above Private Road)	626.2	627.7	628.3	629.6
Station 1703+80 (Above Yearly Road)	631.9	633.7	634.3	635.6
Station 1801+69 (Above Thompson Road)	653.9	655.0	655.4	656.5

TABLE 2 - SUMMARY OF ELEVATIONS - cont.

FLOODING SOURCE AND LOCATION	ELEVATION ABOVE NGVD (feet) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
WHITE ROCK CREEK- WEST (cont.)				
Station 1864+64 (Above Highway 289)	672.6	672.6	673.0	673.8
Station 1940+50 (Above Rasor Road)	695.3	696.2	696.6	697.3
Station 1957+40 (Above County Road)	699.7	700.5	700.8	701.5
Station 1974+43 (Above Highway 121)	705.7	706.7	707.0	707.6

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages state and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study includes a flood boundary map designed to assist communities in developing sound flood plain management measures.

4.1 Flood Boundaries

In order to provide a national standard without regional discrimination, the 100-year flood has been adopted by the FIA as the base flood for purposes of flood plain management measures. The 500-year flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the boundaries of the 100- and the 500-year floods have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using available topographic maps with a contour interval of 10 feet (Reference 7). In cases where the 100- and the 500-year flood boundaries are close together, only the 100-year boundary has been shown.

Small areas within the flood boundaries may lie above the flood elevations and therefore not be subject to flooding; owing to limitations of the map scale, such areas are not shown.

4.2 Floodways

Encroachment on flood plains, such as artificial fill, reduces the flood-carrying capacity, increases the flood heights of streams, and increases flood hazards in areas beyond the encroachment itself. One aspect of flood plain management involves balancing the economic gain from flood plain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, the concept of a floodway is used as a tool to assist local communities in this aspect of flood plain manage-

ment. Under this concept, the area of the 100-year flood is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent flood plain areas that must be kept free of encroachment in order that the 100-year flood may be carried without substantial increases in flood heights. Minimum standards of the FIA limit such increases in flood heights to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this report are presented to local agencies as minimum standards that can be adopted or that can be used as a basis for additional studies.

The floodway proposed for this study was computed on the basis of equal conveyance reduction from each side of the flood plain. The results of these computations are tabulated at selected field cross sections for each stream studied and are shown in Table 3. Floodways were not determined for Cottonwood Creek-East Fork, Tributary to Rowlett Creek, Franklin Branch, Unnamed Tributary to Wilson Creek, Rutherford Branch, Reid Branch and Stream 5B14. These streams had narrow 100-year flood topwidths and encroachment runs were not necessary according to FIA guidelines. The floodway boundaries, as shown on the Flood Boundary and Floodway Map (Exhibit 3), were determined at cross sections; between cross sections the boundaries were interpolated.

The area between the floodway and the boundary of the 100-year flood is termed the floodway fringe. The floodway fringe thus encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to flood plain development are shown in Figure 2.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
Rush Creek								
A	-1,935	578	2,674	2.4	442.0	442.0	443.1	0.9
B	-30	361	1,108	5.6	448.8	448.8	449.7	0.9
C	1,405	546	3,195	2.0	455.1	455.1	456.1	1.0
D	3,300	280	866	4.4	458.5	458.5	458.6	0.1
E	5,750	270	1,124	3.4	469.3	469.3	469.8	0.5
F*	5,942	270	562	6.7	474.1	474.1	474.1	0.0
G	6,412	64	347	10.9	475.1	475.1	475.9	0.8
H	7,600	300	1,434	2.6	477.4	477.4	478.4	1.0
I	10,230	75	217	8.0	485.7	485.7	485.8	0.1
J	11,270	290	862	2.0	491.8	491.8	492.6	0.8
K	11,353	291	380	4.6	497.2	497.2	497.2	0.0
L	12,000	301	1,453	1.2	498.3	498.3	499.3	1.0
Wilson Creek								
A*	85,340	1,293	7,647	3.2	580.4	580.4	580.4	0.0
B	88,330	1,218	4,946	5.0	584.0	584.0	584.8	0.8
C	95,020	1,400	8,113	3.0	596.5	596.5	597.5	1.0
D	96,460	1,629	8,550	2.3	598.6	598.6	599.1	0.5
E	99,275	879	2,818	7.0	602.0	602.0	602.1	0.1
F	102,200	761	4,326	4.6	610.6	610.6	611.1	0.5
G	107,400	584	2,887	6.8	622.7	622.7	623.5	0.8
H	112,000	123	1,769	7.4	635.0	635.0	635.4	0.4
I	112,910	124	1,831	7.1	637.0	637.0	637.5	0.5
J	114,480	104	1,510	8.6	639.9	639.9	640.3	0.4

[1]Feet measured along streambed for Rush Creek; feet above mouth for Wilson Creek.
*Located in Area Not Included.
NOTE: Cross-sections A and B of Rush Creek were measured downstream from Station 0

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOODWAY DATA

RUSH CREEK - WILSON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
Wilson Creek (continued)								
K	115,150	113	1,445	9.0	641.7	641.7	641.9	0.2
L	116,130	131	1,588	8.2	644.9	644.9	645.0	0.1
Stream 5B13								
A	9,125	59	216	9.3	682.2	682.2	682.8	0.6
B*	11,395	295	765	1.8	699.3	699.3	699.3	0.0
White Rock Creek-East								
A	3,400	784	5,403	2.2	491.0	491.0	491.9	0.9
B	5,000	642	4,140	2.9	492.7	492.7	493.7	1.0
C	6,600	710	4,021	3.0	495.5	495.5	496.5	1.0
D	8,740	508	2,948	4.1	500.8	500.8	501.8	1.0
E	10,440	636	3,393	3.6	504.8	504.8	505.8	1.0
F	12,440	760	3,506	3.5	509.7	509.7	510.5	0.8
G	13,550	415	2,970	4.1	515.0	515.0	515.8	0.8
H	14,830	231	1,704	5.6	518.1	518.1	519.1	1.0
I	15,670	305	3,109	3.1	523.5	523.5	524.2	0.7
J*	16,340	100	1,099	8.7	523.6	523.6	524.3	0.7
K	17,530	73	918	6.7	526.8	526.8	527.7	0.9
L	19,640	85	756	8.2	532.4	532.4	533.2	0.8

[1]Feet above mouth for Wilson Creek and White Rock Creek - East; feet above confluence with McKamy Branch for Stream 5B13.
*Located in Area Not Included.

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOODWAY DATA

WILSON CREEK-STREAM 5B13-WHITE ROCK CREEK EAST

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
White Rock Creek-East (continued)								
M	21,260	57	602	10.3	540.3	540.3	540.3	0.0
N	23,080	81	1,139	5.4	551.4	551.4	552.4	1.0
O	24,650	87	668	9.3	556.6	556.6	556.7	0.1
P	27,000	74	693	8.9	571.0	571.0	571.0	0.0
Q*	28,550	72	850	7.3	583.0	583.0	583.0	0.0
Muddy Creek (Downstream)								
A	1,870	597	2,577	2.5	485.9	485.9	486.8	0.9
B	4,070	840	3,727	1.7	487.9	487.9	488.9	1.0
C	6,100	520	837	4.4	491.1	491.1	491.5	0.4
D	7,155	370	3,046	1.2	498.7	498.7	499.2	0.5
E	7,740	850	5,209	0.7	498.8	498.8	499.5	0.7
F	8,300	500	3,114	1.1	499.7	499.7	500.2	0.5
G	10,800	400	1,391	2.5	500.5	500.5	501.1	0.6
Muddy Creek (Upstream)								
H	20,260	479[2]	2,964	3.4	527.2	527.2	528.2	1.0
I	22,260	283[2]	1,967	5.1	532.0	532.0	532.9	0.9

[1]Feet above mouth.
*Located in Area Not included.
[2]This width extends beyond County Boundary

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOODWAY DATA

WHITE ROCK CREEK EAST-MUDDY CREEK (DOWNSTREAM)
MUDDY CREEK (UPSTREAM)

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
Muddy Creek (Upstream) (continued)								
J	25,300	429	3,197	3.1	538.3	538.3	539.3	1.0
K	26,870	396[2]	2,476	2.9	541.4	541.4	542.3	0.9
L	28,790	354[2]	3,043	2.3	547.5	547.5	547.5	0.0
M	30,460	189	1,177	6.1	549.4	549.4	549.9	0.5
N	32,000	290	2,181	3.3	555.1	555.1	556.0	0.9
O	32,880	264	4,418	1.6	555.7	555.7	556.6	0.9
P	33,290	105	683	7.2	555.8	555.8	556.8	1.0
Q	35,180	293	1,606	3.1	562.8	562.8	563.5	0.7
R	37,030	125	818	6.0	567.7	567.7	568.7	1.0
S*	38,220	686	3,734	1.3	573.3	573.3	574.2	0.9
Muddy Creek Tributary 1								
A	1,060	49	247	2.9	498.8	496.9[3]	497.8[3]	0.9
B	2,360	41	144	5.0	501.7	501.7	502.7	1.0
C	3,780	43	270	2.7	510.1	510.1	510.6	0.5
D	4,240	403	1,026	0.7	510.1	510.1	511.0	0.9

[1] Feet above mouth
[2] This width extends beyond County Boundary
[3] Water-surface elevations determined without backwater consideration
*Located in Area Not included.

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOODWAY DATA

MUDDY CREEK (UPSTREAM)-MUDDY CREEK TRIBUTARY 1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
Muddy Creek Tributary 2								
A	1,670	113	600	4.2	556.7	556.7	557.6	0.9
B	2,500	169	752	3.4	560.0	560.3	561.3	1.0
C	4,500	229	1,407	1.8	571.2	571.2	572.2	1.0
D	5,740	134	611	4.1	573.2	573.2	574.1	0.9
E	7,050	237	1,067	2.4	576.7	576.7	577.7	1.0
Stream 5B14								
A*	4,645	286	471	1.3	678.4	678.4	679.4	1.0
Rowlett Creek								
AQ	185,130	159	1,812	9.1	648.9	648.9	649.6	0.7
AR	187,820	175	2,131	7.7	657.9	657.9	658.6	0.7
AS	190,770	170	2,034	8.1	665.9	665.9	666.9	1.0
AT	194,360	149	1,516	11.6	678.1	678.1	678.8	0.7
AU	196,920	202	1,588	6.0	694.1	694.1	695.0	0.9
Cottonwood Creek								
S	60,455	370	2,602	3.1	676.9	676.9	677.8	0.9
T	61,980	218	1,449	5.6	679.7	679.7	680.5	0.8
U	62,785	376	2,104	3.8	682.2	682.2	683.2	1.0

[1]Feet above mouth for Muddy Creek Tributary 2, Stream 5B14 and Cottonwood Creek; feet above confluence with East Fork Trinity River for Rowlett Creek.
*Located in Area Not Included.

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNICORPORATED AREAS)

FLOODWAY DATA

MUDDY CREEK TRIBUTARY 2-STREAM 5B14
ROWLETT CREEK-COTTONWOOD CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
White Rock Creek -West								
BF	153,660	405	4,802	5.4	599.0	599.0	600.0	1.0
BG	155,080	727	6,511	4.0	601.4	601.4	602.4	1.0
BH	157,810	200	2,512	10.2	608.0	608.0	608.1	0.1
Rush Creek Tributary								
A	600	150	391	3.4	490.4	490.4	490.8	0.4
B	1,750	69	233	5.8	498.6	498.6	499.1	0.5
C	2,037	141	443	3.0	508.8	508.8	509.7	0.9
D	2,045	310	2,223	0.6	509.0	509.0	509.9	0.9
E	2,078	257	1,084	1.2	509.0	509.0	509.9	0.9
F	2,430	148	770	1.7	509.1	509.1	510.0	0.9
G	2,590	184	740	1.9	509.2	509.2	510.1	0.9
Camp Creek								
A	0	2,757[2]	11,578	2.1	439.0	439.0	440.0	1.0
B	2,540	1,810[2]	8,991	2.7	444.9	449.9	445.2	0.3
C	3,130	1,296[2]	5,874	3.4	445.5	445.5	445.9	0.4
D	5,020	1,359	6,027	2.3	447.7	447.7	448.5	0.8
E	7,380	1,285	4,833	2.9	453.8	453.8	454.7	0.9
F	10,000	412	2,426	5.7	459.2	459.2	460.0	0.8
G	13,150	861	3,324	2.9	465.0	465.0	465.8	0.8

[1] Feet above confluence with Trinity River for White Rock Creek-West; feet above confluence with Rush Creek for Rush Creek Tributary; feet above downstream limit of detailed study for Camp Creek.
[2] This width extends beyond County Boundary

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOODWAY DATA

WHITE ROCK CREEK WEST- RUSH CREEK TRIBUTARY CAMP CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
Camp Creek (cont.d)								
H	15,320	813	2,879	3.3	470.4	470.4	470.9	0.5
I	18,140	829	3,580	2.7	477.8	477.8	478.8	1.0

[1]Feet above downstream Limit of Detailed Study

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNICORPORATED AREAS)

FLOODWAY DATA

CAMP CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
Maxwell Creek								
A	12,660	288/288	1,899	5.9	510.8	510.8	511.7	0.9
B	16,000	360/180	2,179	4.6	517.7	517.7	518.6	0.9
C	16,960	290/0	1,536	6.5	520.5	520.5	521.4	0.9
D	18,000	293/0	1,900	4.6	524.2	524.2	525.1	0.9
E	18,790	219/0	1,443	6.0	526.1	526.1	527.0	0.9
F	20,329	245/0	1,977	4.4	531.0	531.0	532.0	1.0
G	21,460	224/54	1,573	5.5	534.7	534.7	535.6	0.9
H	22,430	134/0	1,180	7.4	539.2	539.2	540.1	0.9
I	24,060	168/0	1,817	4.3	545.7	545.7	546.7	1.0
J	26,180	110/0	1,090	7.2	552.3	552.3	553.1	0.8
K	27,430	111/0	1,180	6.0	557.6	557.6	558.4	0.8
L	28,505	241/0	1,649	4.3	561.9	561.9	562.7	0.8
M	29,620	143/143	1,315	5.4	565.9	565.9	566.8	0.9

[1]Feet above mouth
[2]Total width/width within Collin County

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOODWAY DATA

MAXWELL CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
Muddy Creek Tributary								
A	2,030	226/226[2]	797	2.5	482.3	482.3	483.2	0.9
B	3,240	82/82[2]	365	5.5	489.3	489.3	489.9	0.6
C	4,250	177/87[2]	664	3.0	495.2	495.2	496.1	0.9
D	4,375	185/0[2]	623	3.2	497.6	497.6	498.5	0.9
E	5,600	80/0[2]	383	5.3	502.0	502.0	502.6	0.6
F	6,880	128/0[2]	519	3.9	509.4	509.4	510.4	1.0
G	7,700	150/0[2]	753	2.7	512.5	512.5	513.3	0.8
East Fork Trinity River								
A	80.42	3590[3]	24,787	2.0	526.2	526.2	526.7	0.5
B	82.40	4400[3]	35,455	1.4	531.4	531.4	531.5	0.1
C	83.30	2200[3]	14,647	3.4	534.5	534.5	535.3	0.8
D	84.30	2300[3]	19,176	2.6	541.7	541.7	542.6	0.9

[1]Feet above mouth
[2]Total width/width within Collin County
[3]This width extends beyond County Boundary

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOODWAY DATA

MUDDY CREEK TRIBUTARY - EAST FORK TRINITY RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
Wilson Creek (Near Fairview)								
A	0	1453	11,369	2.7	521.3	521.3	522.1	0.8
B	7,200	2948/2098[2]	19,564	1.6	524.8	524.8	525.6	0.8
C	11,900	1585	10,956	2.8	527.3	527.3	528.1	0.8
Sloan Creek								
A	4,280	490/340[2]	2,923	3.8	525.5	525.5	526.4	0.9
Sabine Creek Tributary B								
A	5,400	147	378	4.5	578.9	578.9	579.4	0.5

[1] Feet above mouth
[2] Total width/width within Collin County

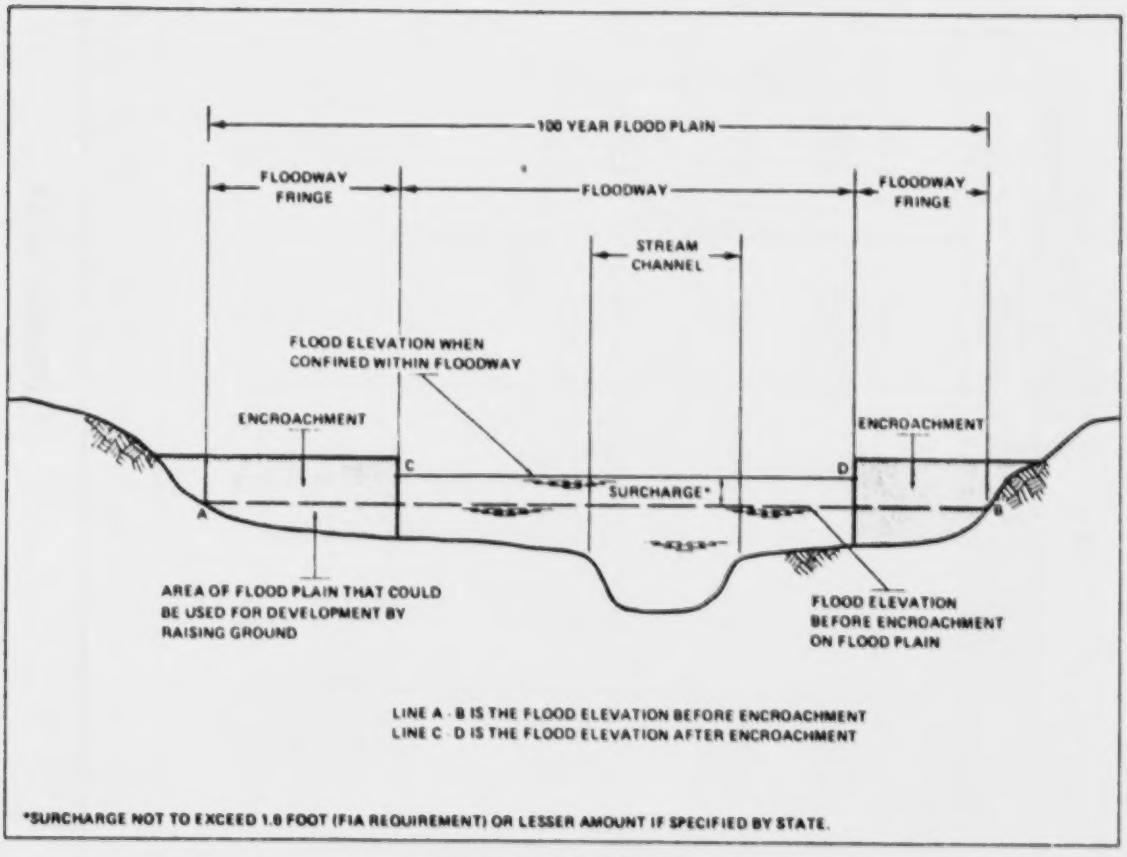
TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOODWAY DATA

WILSON CREEK (NEAR FAIRVIEW) - SLOAN CREEK
SABINE CREEK TRIBUTARY B



FLOODWAY SCHEMATIC Figure 2

5.0 INSURANCE APPLICATION

In order to establish actuarial insurance rates, the FIA has developed a process to transform the data from the engineering study into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors (FHFs), and flood insurance zone designations for each significant flooding source affecting Collin County.

5.1 Reach Determinations

Reaches are defined as lengths of watercourses having relatively the same flood hazard, based on the average weighted difference in water-surface elevations between the 10- and 100-year floods. This difference does not have a variation greater than that indicated in the following table for more than 20 percent of the reach.

Average Difference Between 10- and 100-Year Floods	Variation
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet

The location of reaches required to meet the above criteria for flooding sources within Collin County are shown on the Flood Profiles (Exhibit 3) and summarized in the Flood Insurance Zone Data Table.

5.2 Flood Hazard Factors (FHFs)

The Flood Hazard Factor is used to correlate flood information with insurance rate tables. Correlations between property damages from floods and their assigned FHFs are used to set actuarial insurance premium rate tables based on FHFs from 005 to 200.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations expressed to the nearest one-half foot, and shown as a three-digit code. For example, if the difference between the water-surface elevations of the 10- and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10- and 100-year flood water-surface elevations is greater than 10.0 feet, the accuracy for the FHF is to the nearest foot.

5.3 Flood Insurance Zones

After the determination of reaches and their respective FHFs, the unincorporated areas of Collin County was divided into zones, each having a specific flood potential or hazard. Each zone was assigned one of the following flood insurance zone designations.

Zone A: Special Flood Hazard Areas inundated by the 100-year flood, determined by approximate methods; no base flood elevations shown or FHFs determined.

Zones A1, A2, A3, A4, A5, A6, A7 and A10: Special Flood Hazard Areas inundated by the 100-year flood, determined by detailed methods; base flood elevations shown, and zones subdivided according to FHFs.

Zone B: Areas between the Special Flood Hazard Area and the limits of the 500-year flood, including areas of the 500-year flood plain that are protected from the 100-year flood by dike, levee, or other water control structure; areas subject to certain types of

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Cottonwood Creek East Fork Reach 1	535	-0.9	-0.3	+0.6	010	A2	Varies
Rush Creek Reach 1	420,535	-1.1	-0.3	+0.8	010	A2	Varies
Franklin Branch Reach 1	260	-0.9	-0.2	+2.7	010	A2	Varies
Unnamed Tributary to Wilson Creek Reach 1	260	-1.0	-0.3	+0.5	010	A2	Varies
Rutherford Branch Reach 1	255	-1.8	-0.5	+2.0	020	A4	Varies

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT – SEE MAP

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD INSURANCE ZONE DATA

COTTONWOOD CREEK EAST FORK - RUSH CREEK - FRANKLIN BRANCH - UNNAMED TRIBUTARY TO WILSON CREEK - RUTHERFORD BRANCH

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION[3]
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Wilson Creek							
Reach 1	260	-2.7	-1.0	+3.5	025	A5	Varies
Reach 2	255,260	-3.1	-1.0	+3.4	030	A6	Varies
Reach 3	255	-4.8	-1.2	+2.6	050	A10	Varies
Stream 5B13							
Reach 1	370	-0.5	-0.1	+0.2	005	A1	Varies
Tributary to Rowlett Creek							
Reach 1	265	-2.0	-0.5	+0.9	020	A4	Varies
White Rock Creek East							
Reach 1	405,410	-2.3	-0.6	+1.3	025	A5	Varies
Reid Branch							
Reach 1	405	-2.5	-0.7	+1.6	025	A5	Varies

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT-SEE MAP

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNICORPORATED AREAS)

FLOOD INSURANCE ZONE DATA

WILSON CREEK-STREAM 5B13-ROWLETT CREEK TRIBUTARY
WHITE ROCK CREEK EAST-REID BRANCH

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Muddy Creek (Downstream)							
Reach 1	415,420	-0.7	-0.3	+0.6	005	A1	Varies
Reach 2	415,420	-2.3	-1.3	+4.0	025	A5	Varies
Muddy Creek (Upstream)							
Reach 1	405,415	-1.4	-0.4	+0.7	015	A3	Varies
Muddy Creek Tributary 1							
Reach 1	415,420	-0.5	-0.1	+0.3	005	A1	Varies
Muddy Creek Tributary 2							
Reach 1	405	-0.8	-0.2	+0.4	010	A2	Varies
Stream 5B14							
Reach 1	370	-0.1	-0.0	+0.1	005	A1	Varies

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT – SEE MAP

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD INSURANCE ZONE DATA

MUDDY CREEK (DOWNSTREAM)-MUDDY CREEK (UPSTREAM)-MUDDY CREEK TRIBUTARY 1-MUDDY CREEK TRIBUTARY 2-STREAM 5B14

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION[3] (NGVD)
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Rowlett Creek Reach 1	265	-2.5	-0.7	+1.2	025	A5	Varies
Cottonwood Creek Reach 1	270	-2.3	-0.6	+1.2	025	A5	Varies
White Rock Creek West Reach 1	365	-2.1	-0.6	+1.3	020	A4	Varies
Rush Creek Tributary Reach 1	420	-0.6	-0.2	+0.6	005	A1	Varies
Camp Creek Reach 1	555,560	-1.1	-0.3	+0.4	010	A2	Varies

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT – SEE MAP

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX

(UNINCORPORATED AREAS)

FLOOD INSURANCE ZONE DATA

ROWLETT CREEK-COTTONWOOD CREEK-WHITE ROCK CREEK WEST-RUSH CREEK TRIBUTARY-CAMP CREEK

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION[3]
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Maxwell Creek							
Reach 1	415,530	-1.1	-0.3	+0.7	010	A2	Varies
Reach 2	415	-1.8	-0.5	+1.0	020	A4	Varies
Muddy Creek Tributary							
Reach 1	420,535	-0.7	-0.2	+0.5	005	A1	Varies
East Fork Trinity River							
Reach 1	300	-3.4	-1.3	+4.1	035	A7	Varies
Wilson Creek (Near Fairview)							
Reach 1	300	-2.6	-1.0	+2.9	025	A5	Varies
Sloan Creek							
Reach 1	300	-2.2	-0.7	+2.1	020	A4	Varies
Sabine Creek Tributary B							
Reach 1	475	-0.4	-0.1	+0.5	005	A1	Varies

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT-SEE MAP

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD INSURANCE ZONE DATA

MAXWELL CREEK-MUDDY CREEK TRIBUTARY -EAST FORK TRINITY RIVER-WILSON CREEK(NEAR FAIRVIEW)-SLOAN CREEK-SABINE CREEK TRIBUTARY B

	100-year shallow flooding where depths are less than 1.0 foot; or areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided.
Zone C:	Areas of minimal flooding.

Table 4, "Flood Insurance Zone Data," summarizes the flood elevation differences, FHFs, flood insurance zones, and base flood elevation for each flooding source studied in detail in the community.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for Collin County is, for insurance purposes, the principal result of the Flood Insurance Study. This map (published separately) contains the official delineation of flood insurance zones and base flood elevation lines. Base flood elevation lines show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. This map is developed in accordance with the latest flood insurance map preparation guidelines published by the FIA.

6.0 OTHER STUDIES

Flood Hazard Boundary Maps were prepared by the Department of Housing and Urban Development, Federal Insurance Administration for Collin County, Texas (Unincorporated Areas) in December 1977. Flood-Prone Area maps were published by U.S. Geological Survey in 1973. Other studies of Collin County flooding consist of various flood studies performed by the Fort Worth District, Corps of Engineers for certain cities in Collin County (Plano, Parker, Murphy, Allen, Sachse, Carrollton and Richardson). Studies are also currently under contract between FIA and Freese and Nichols/Rady and Associates for the cities of Celina, Fairview, Frisco, Josephine, McKinney and Wylie.

7.0 LOCATION OF DATA

Survey, hydrologic, hydraulic, and other pertinent data used in this study can be obtained by contacting the Insurance and Mitigation Division, Federal Emergency Management Agency, Federal Center, Denton, Texas 76201.

8.0 BIBLIOGRAPHY AND REFERENCES

1. Texas Almanac, Dallas Morning News, 1978-1979, p. 342.

2. Regional Directory, North Central Texas Council of Governments, 1979-80.

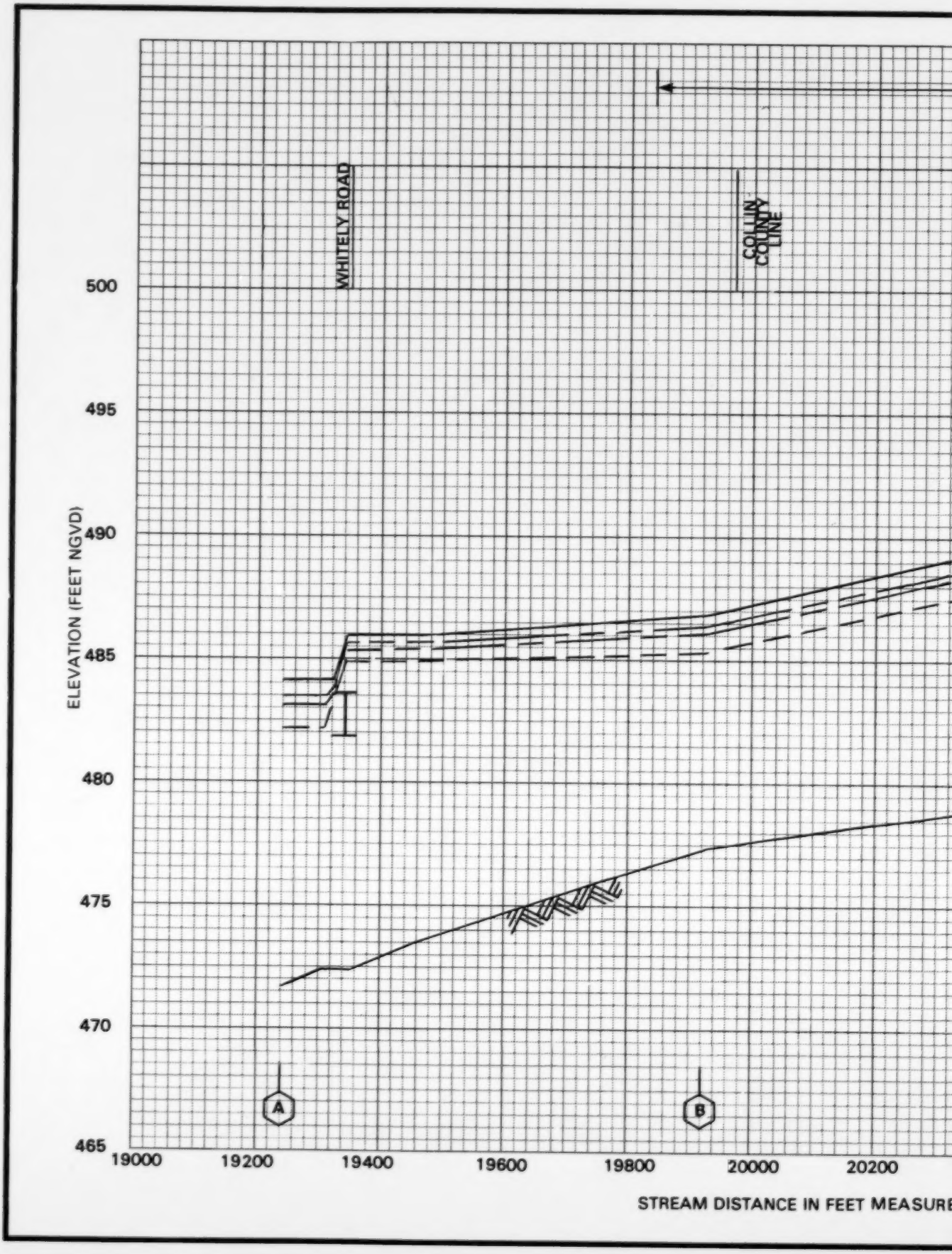
3. The Hydrologic Engineering Center, Corps of Engineers, Davis, California, November 1976; HEC-2 Water-Surface Profiles and HEC-1 Flood Hydrograph Package.

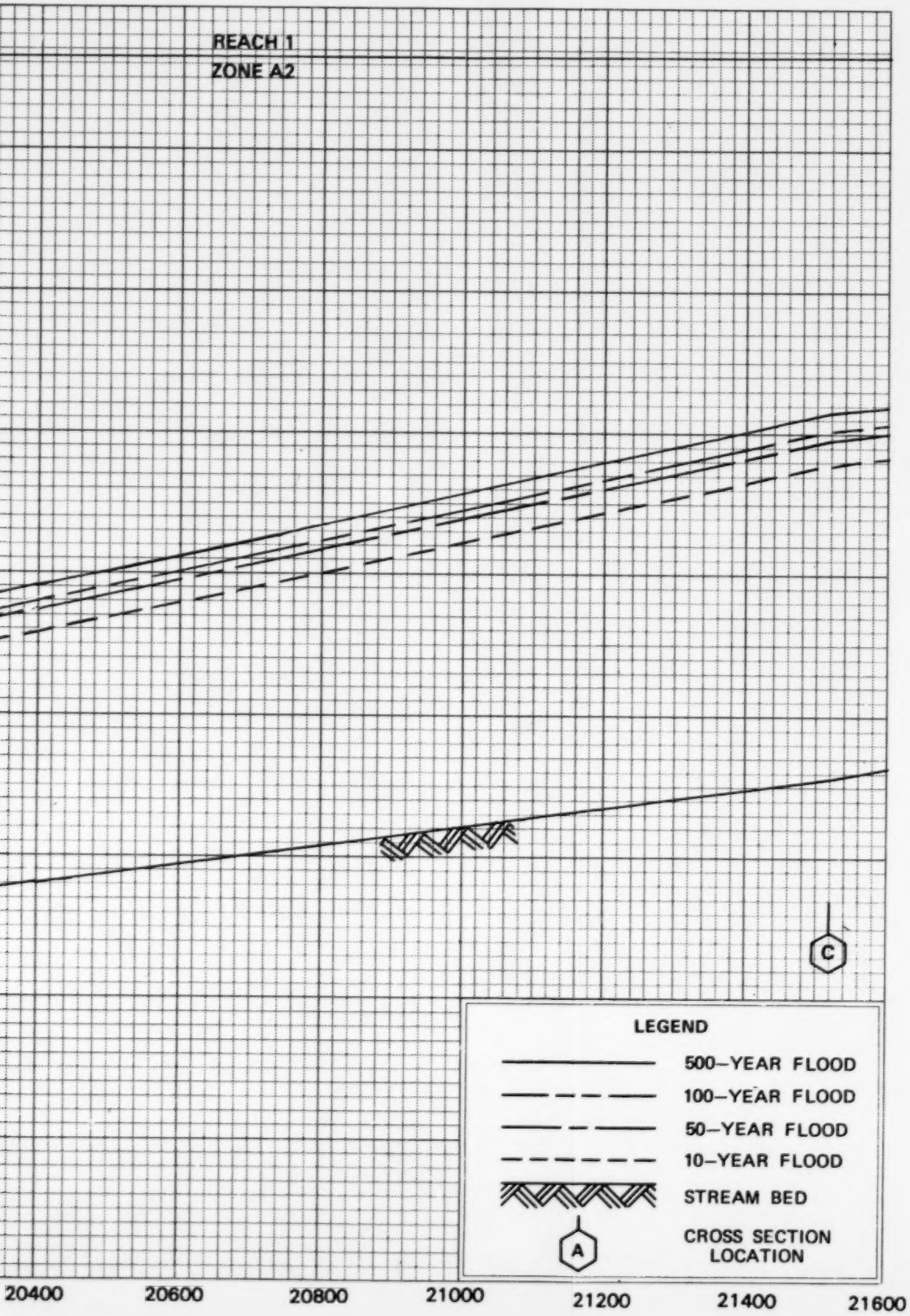
4. National Weather Service, Technical Paper Number 40, Rainfall Frequency Atlas of the United States, May 1961.

5. National Oceanic and Atmospheric Administration Technical Memorandum NWS HYDRO-35; Five- to 60-Minute Precipitation Frequency for the Eastern and Central United States, June 1977.

6. Rodman, Paul, "Synthetic Unit Hydrograph Relationships Trinity River Tributaries (Fort Worth-Dallas Urban Area)," Fort Woth District, U.S. Army Corps of Engineers.

7. U.S. Geological Survey, 7.5 Minute Series Topographic Maps: Wylie, Texas, dated 1959, photorevised 1968 Rowlett, Texas, dated 1959, photorevised 1973 McKinney West, Texas, dated 1960, photorevised 1968 Hebron, Texas, dated 1960, Photorevised 1973 Plano, Texas, dated 1960, photorevised 1973.


WHITELY ROAD
COLLIN COUNTY LINE
500
495
490
485
480
475
470
465
ELEVATION (FEET NGVD)
19000
19200
19400
19600
19800
20000
20200
A
B
STREAM DISTANCE IN FEET MEASURE



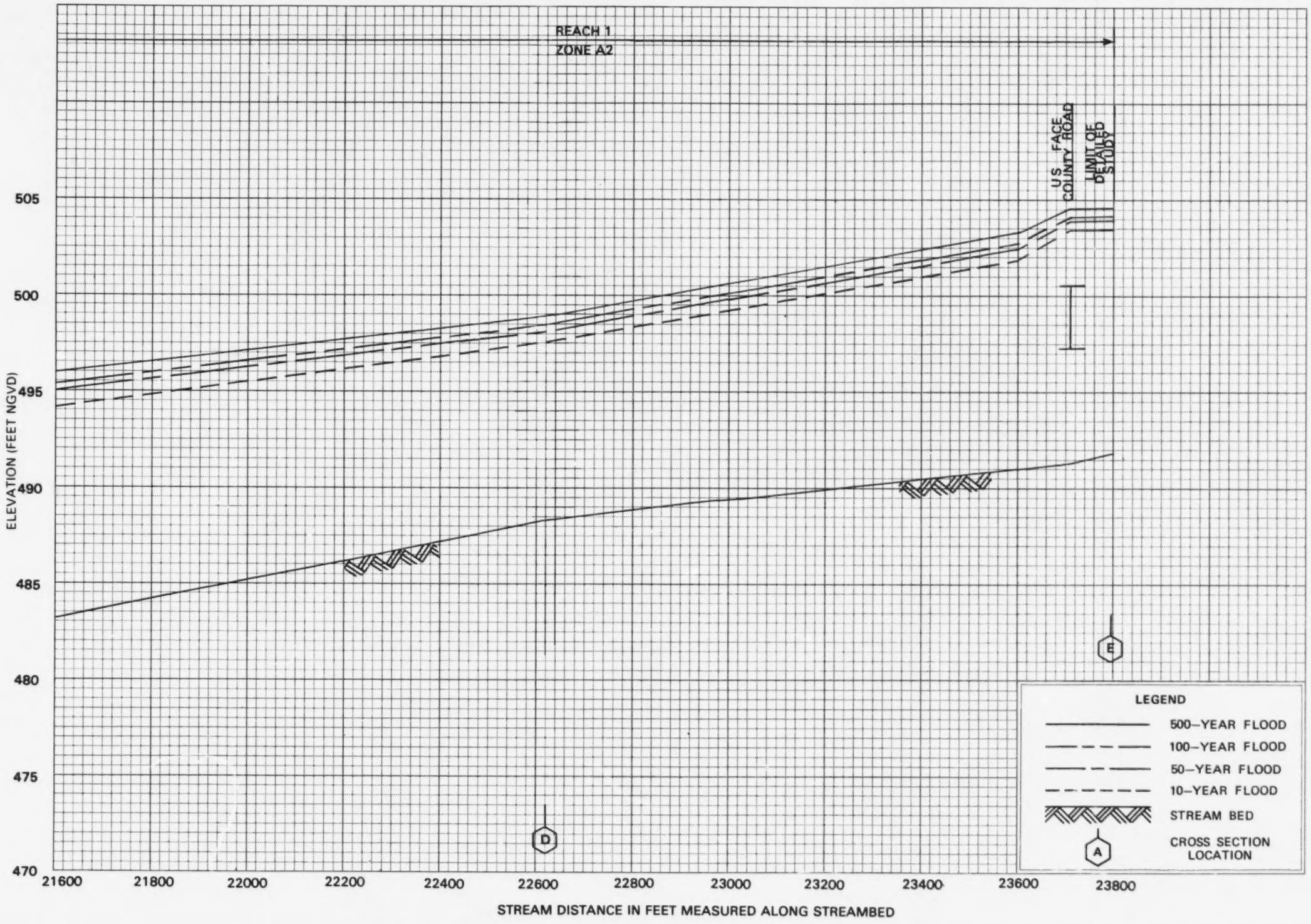
FLOOD PROFILES

COTTON WOOD CREEK-EAST FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

01P



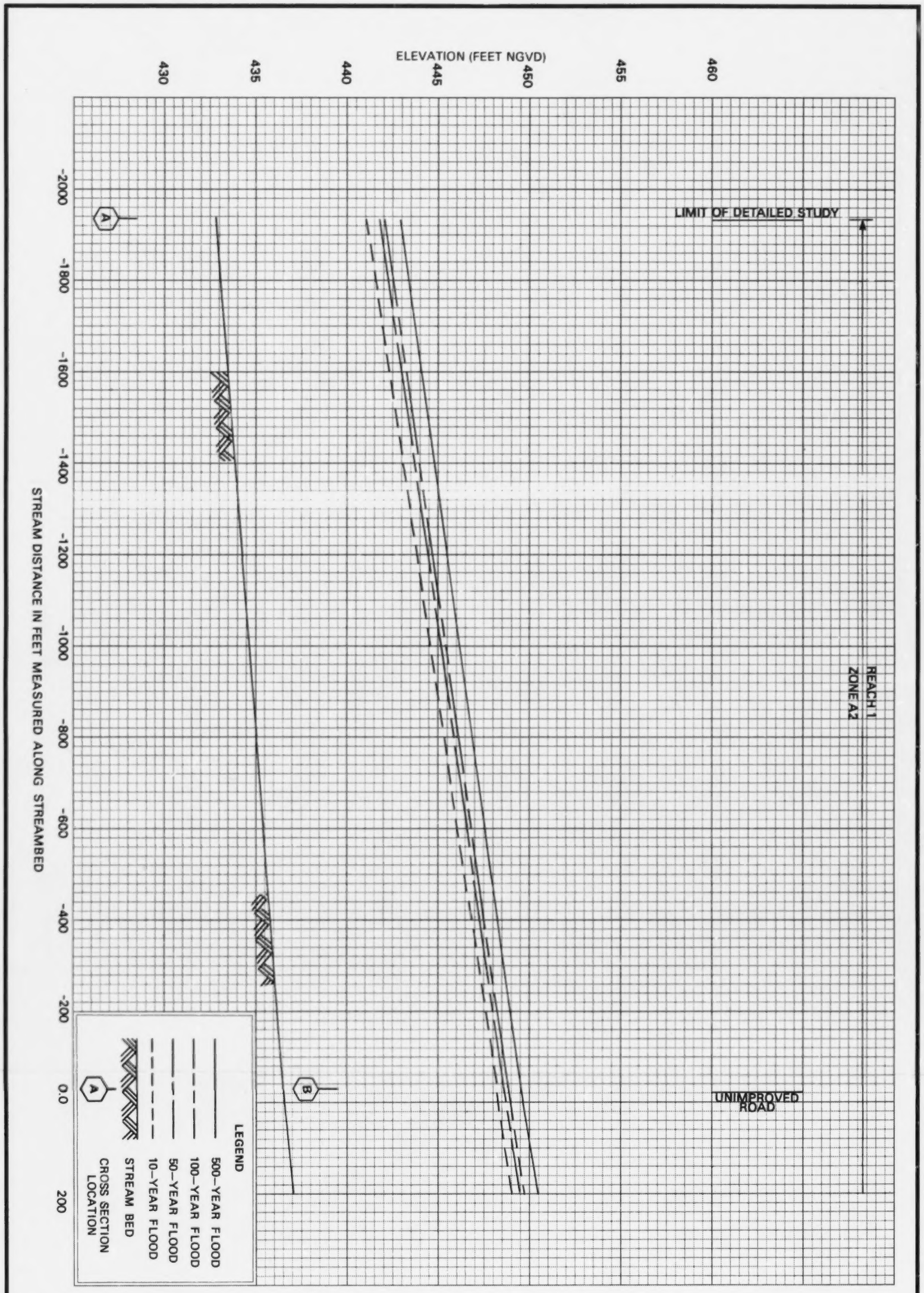
FLOOD PROFILES

COTTON WOOD CREEK-EAST FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

02P



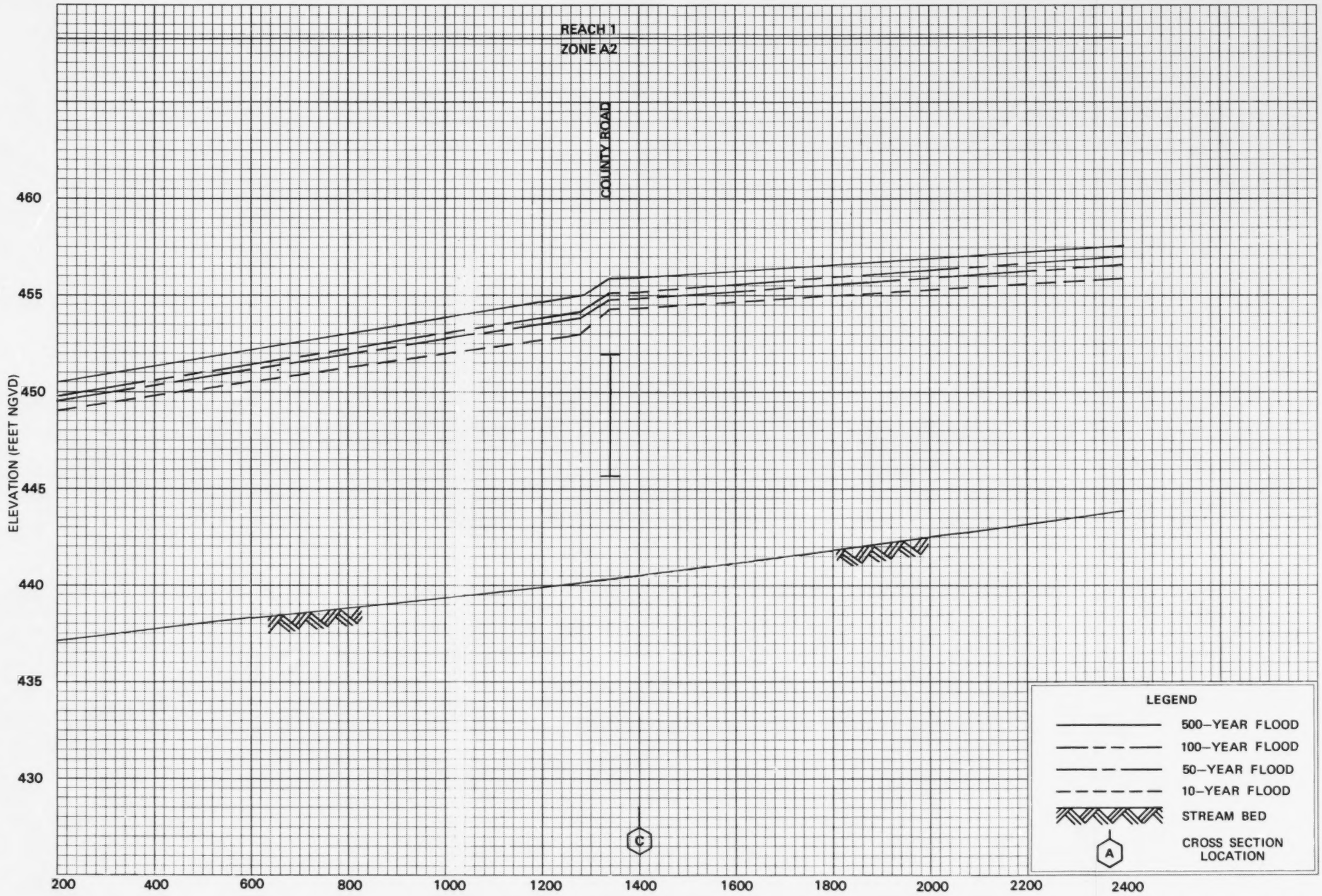
FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

RUSH CREEK

03P



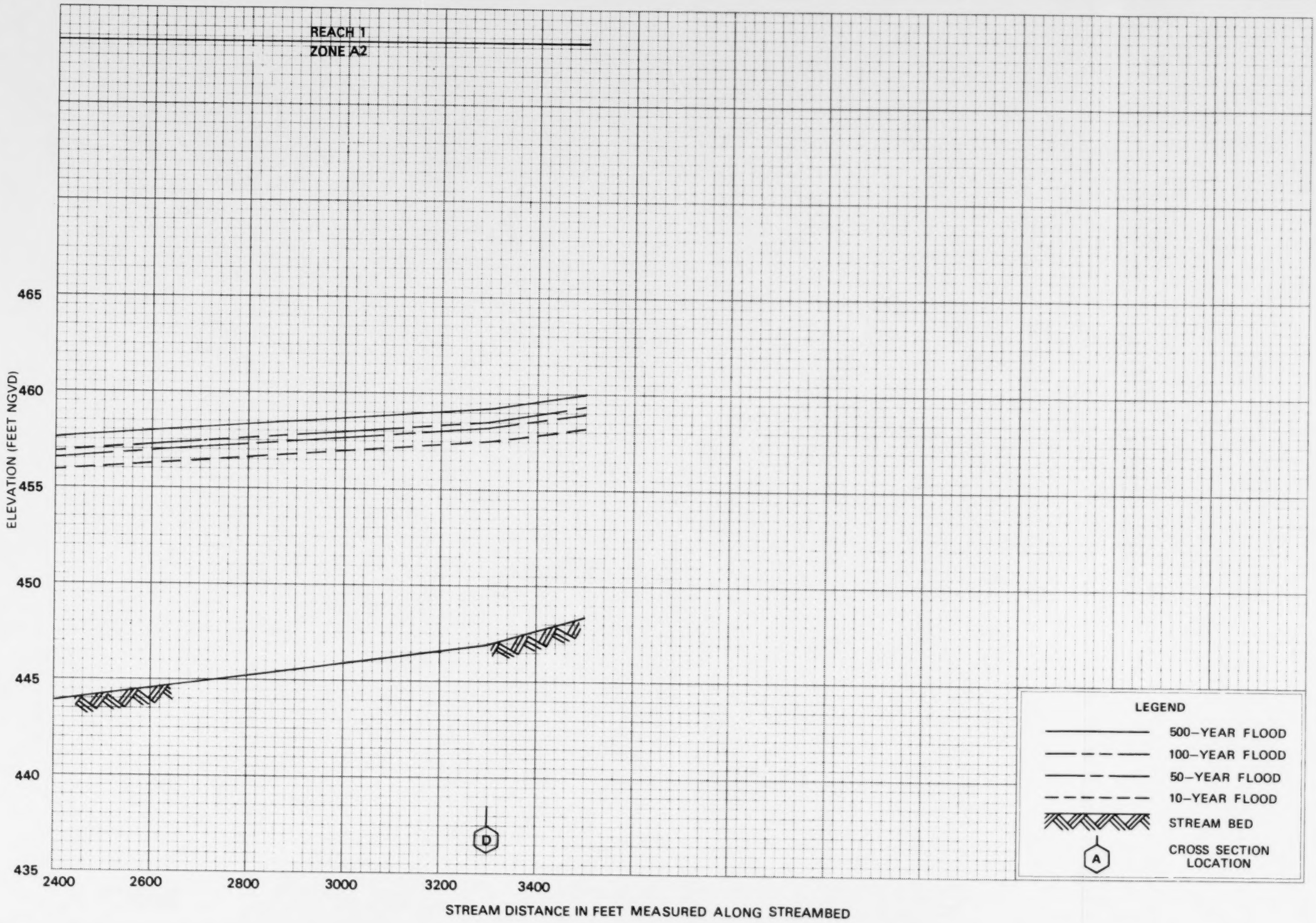
FLOOD PROFILES

RUSH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

04P



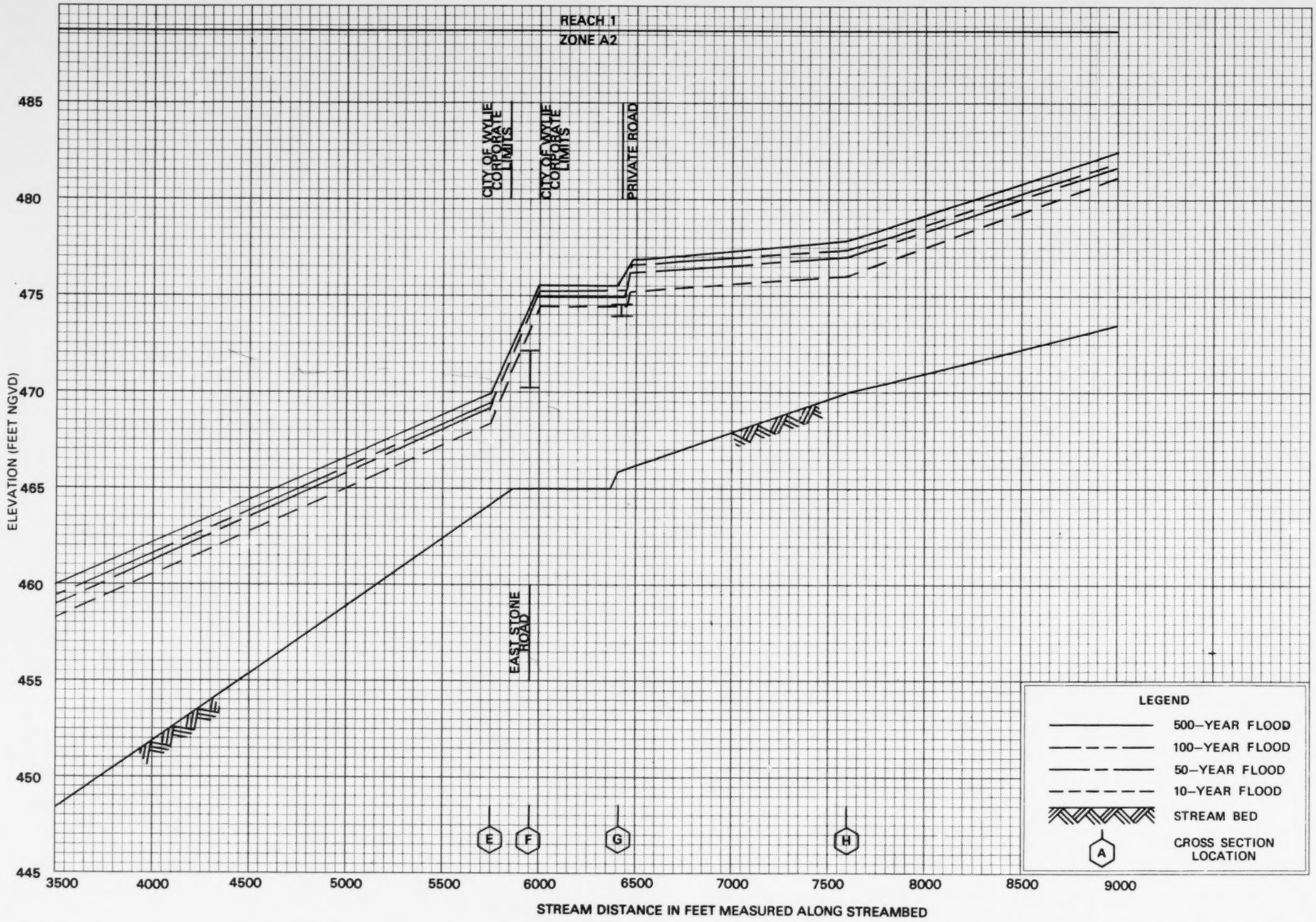
FLOOD PROFILES

RUSH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

05P



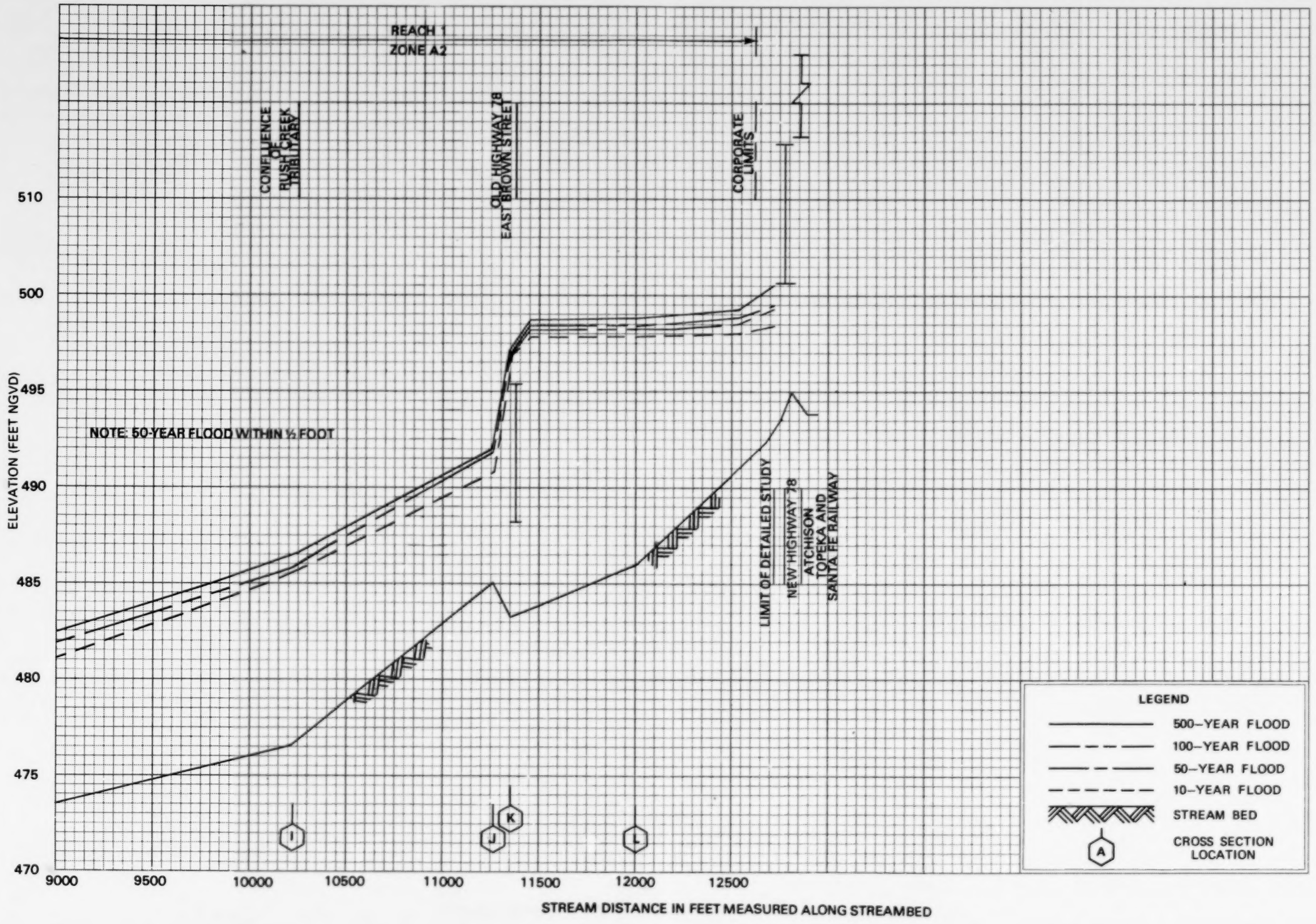
FLOOD PROFILES

RUSH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

06P



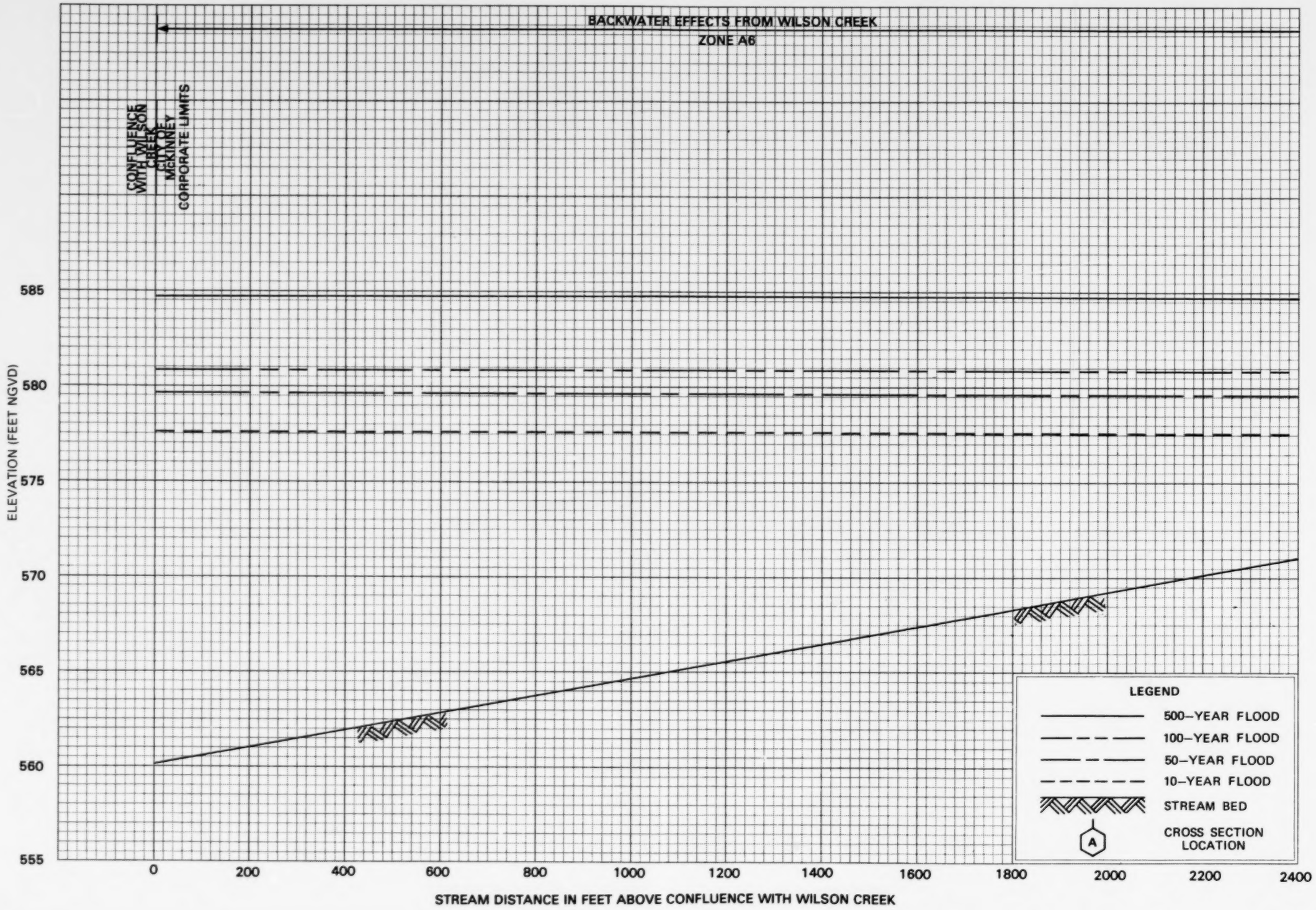
FLOOD PROFILES

RUSH CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

07P



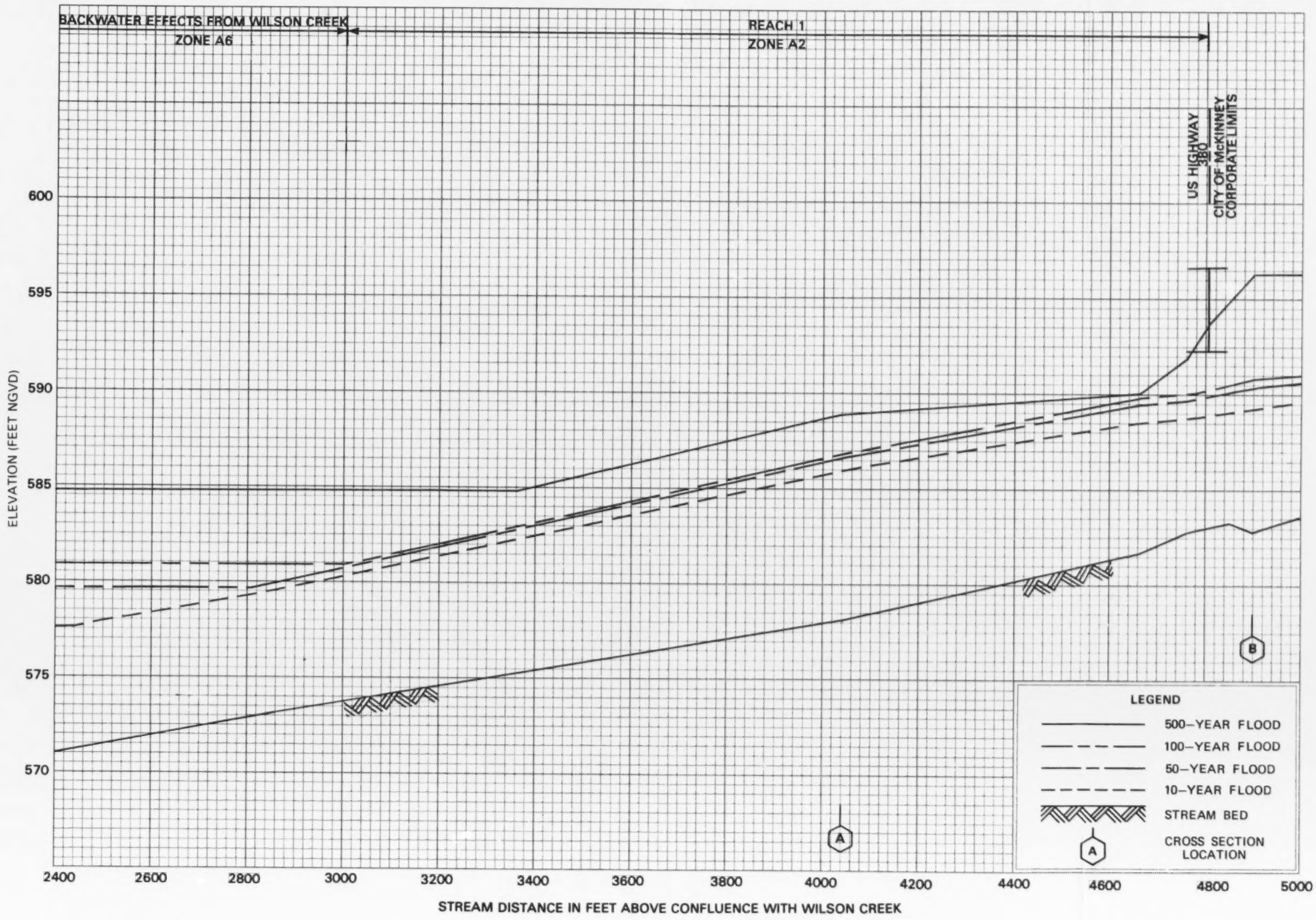
FLOOD PROFILES

FRANKLIN BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

08P



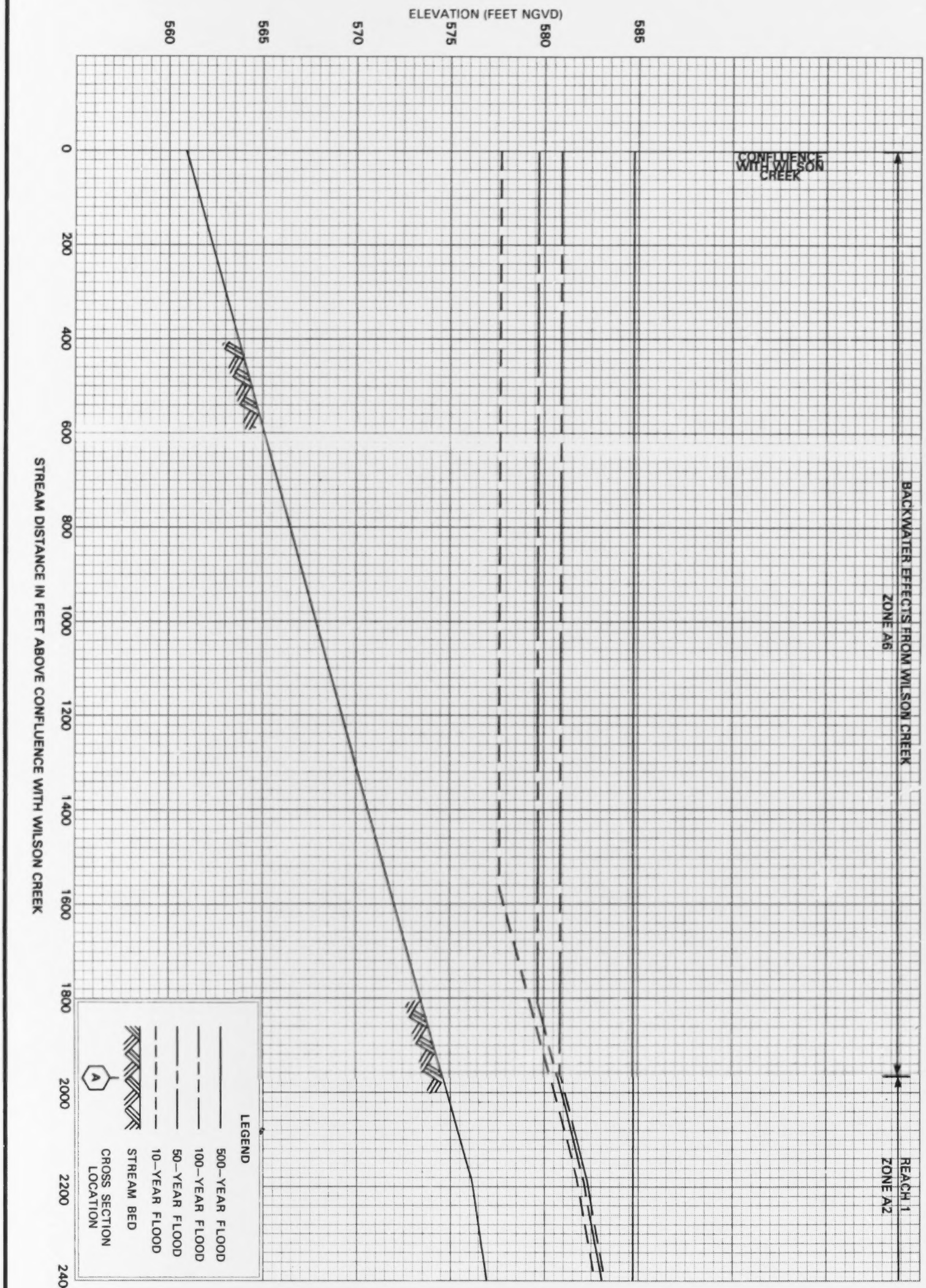
FLOOD PROFILES

FRANKLIN BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

09P



10P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

UNNAMED TRIBUTARY TO WILSON CREEK

REACH 1
ZONE A2

ELEVATION (FEET NGVD)

600
595
590
585
580
575
570
565

2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4800 5000

STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH WILSON CREEK

LEGEND
- 500–YEAR FLOOD
- 100–YEAR FLOOD
- 50–YEAR FLOOD
- 10–YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION (A)

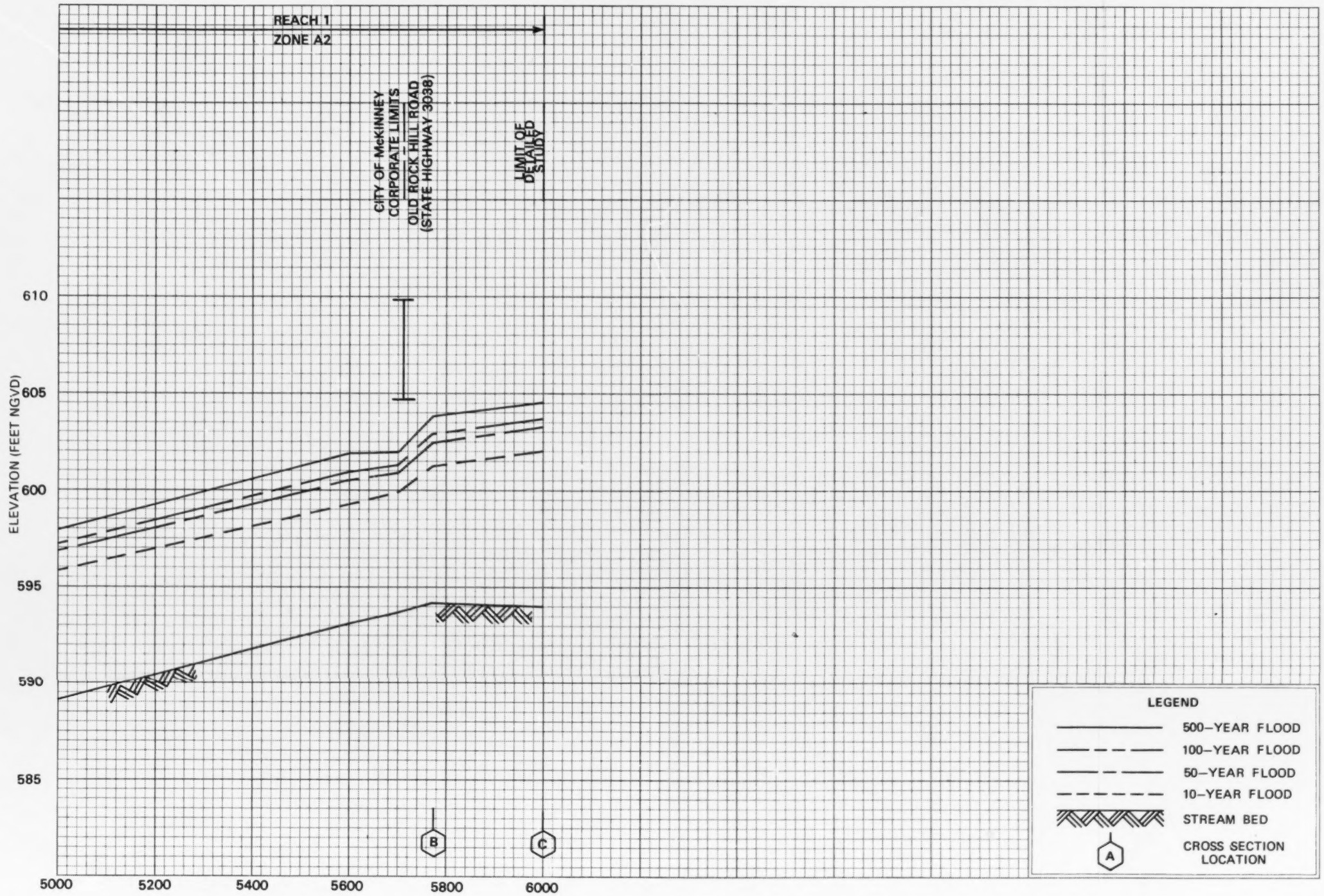
FLOOD PROFILES

UNNAMED TRIBUTARY TO WILSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

11P



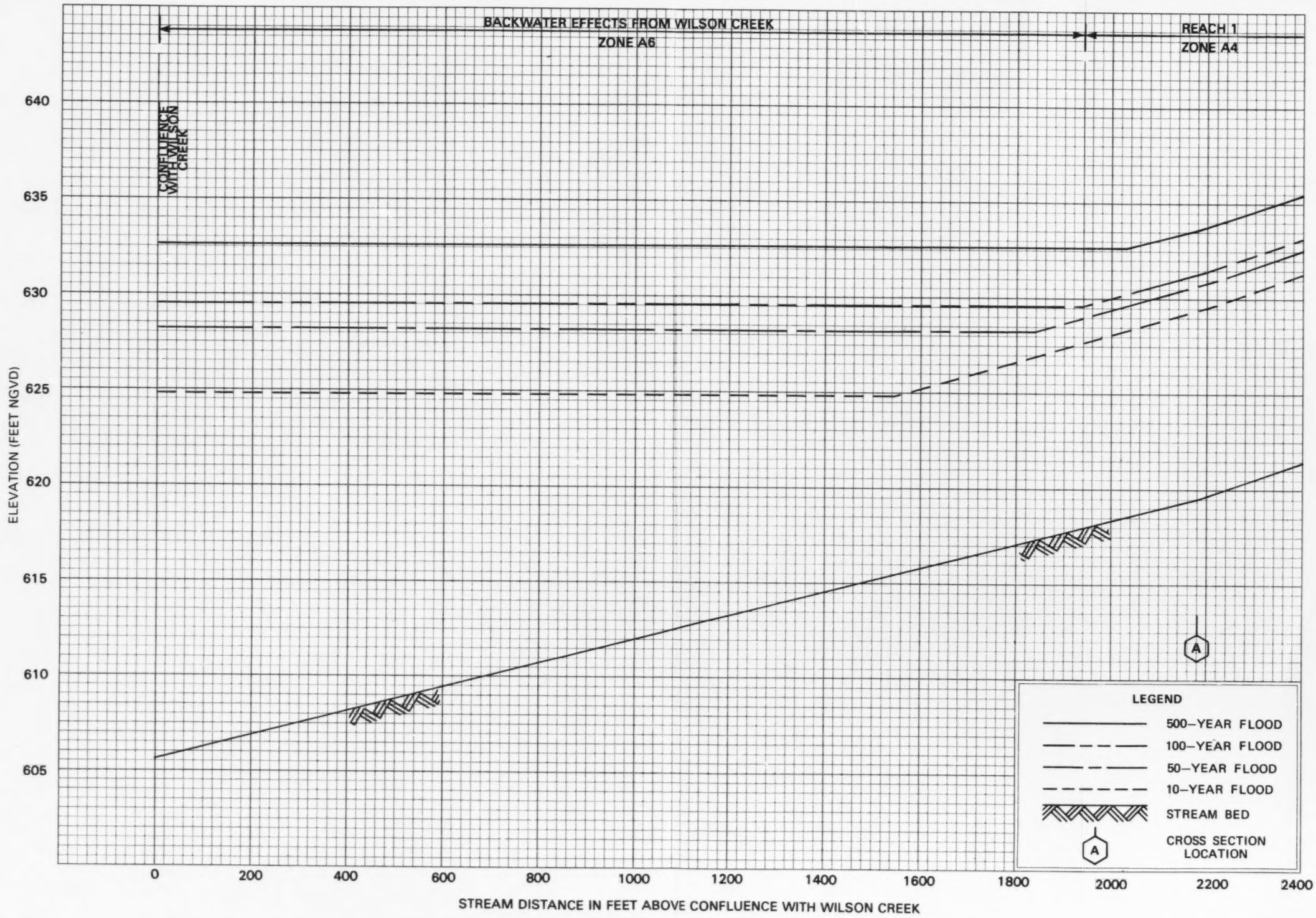
FLOOD PROFILES

UNNAMED TRIBUTARY TO WILSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

12P



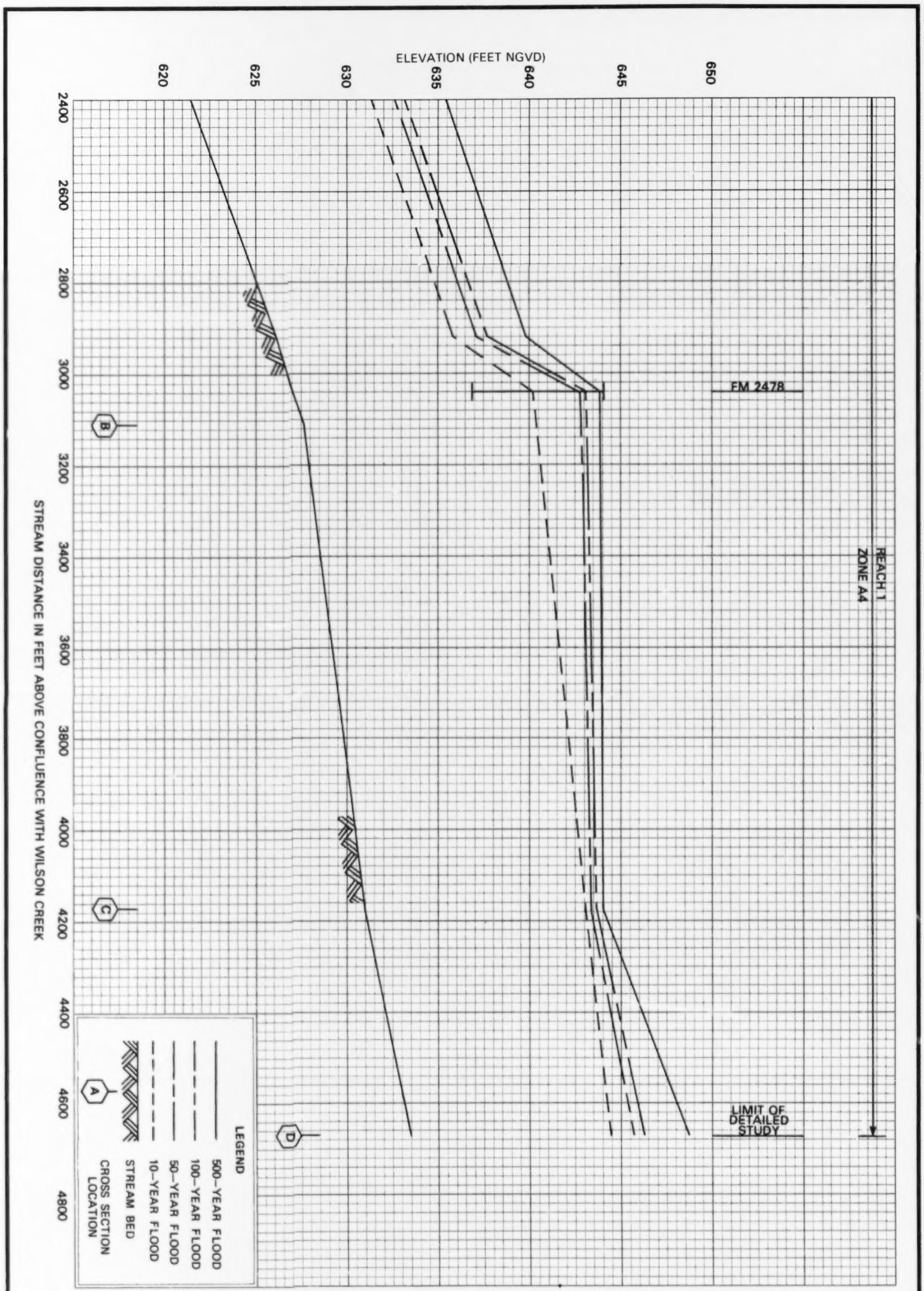
FLOOD PROFILES

RUTHERFORD BRANCH

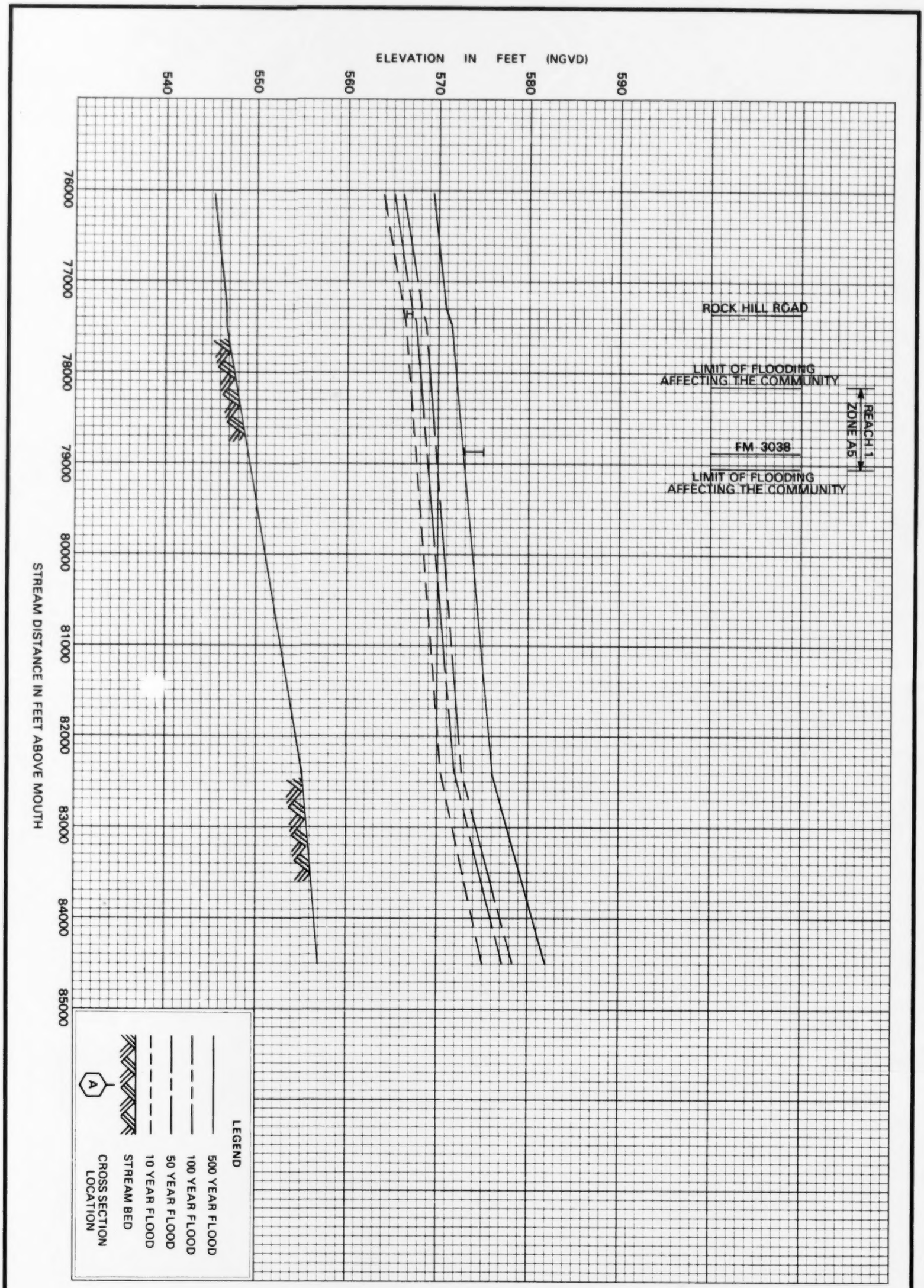
FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

13P



14P	FEDERAL EMERGENCY MANAGEMENT AGENCY Federal Insurance Administration **COLLIN COUNTY, TX** (UNINCORPORATED AREAS)	**FLOOD PROFILES** **RUTHERFORD BRANCH**



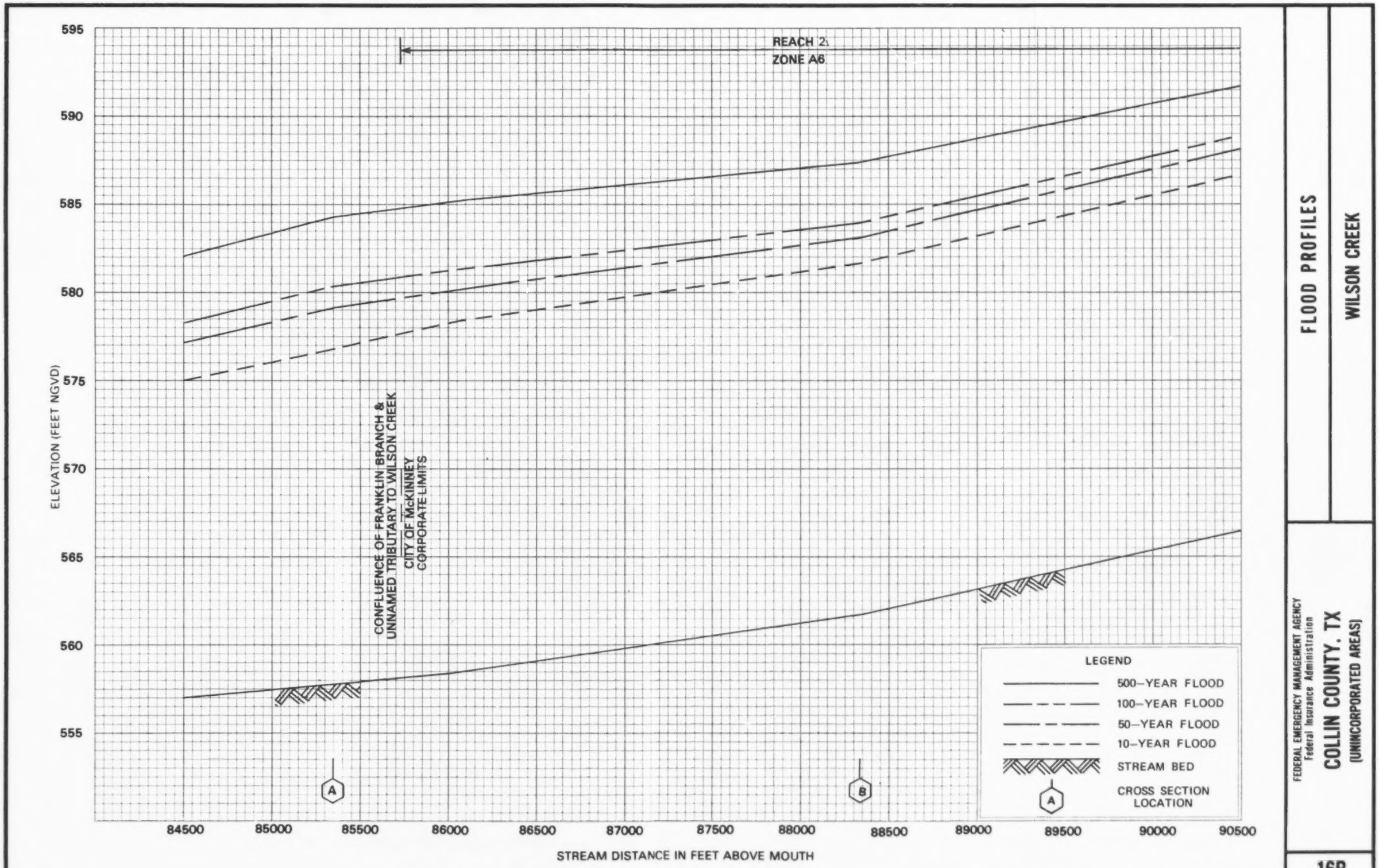
15P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

WILSON CREEK



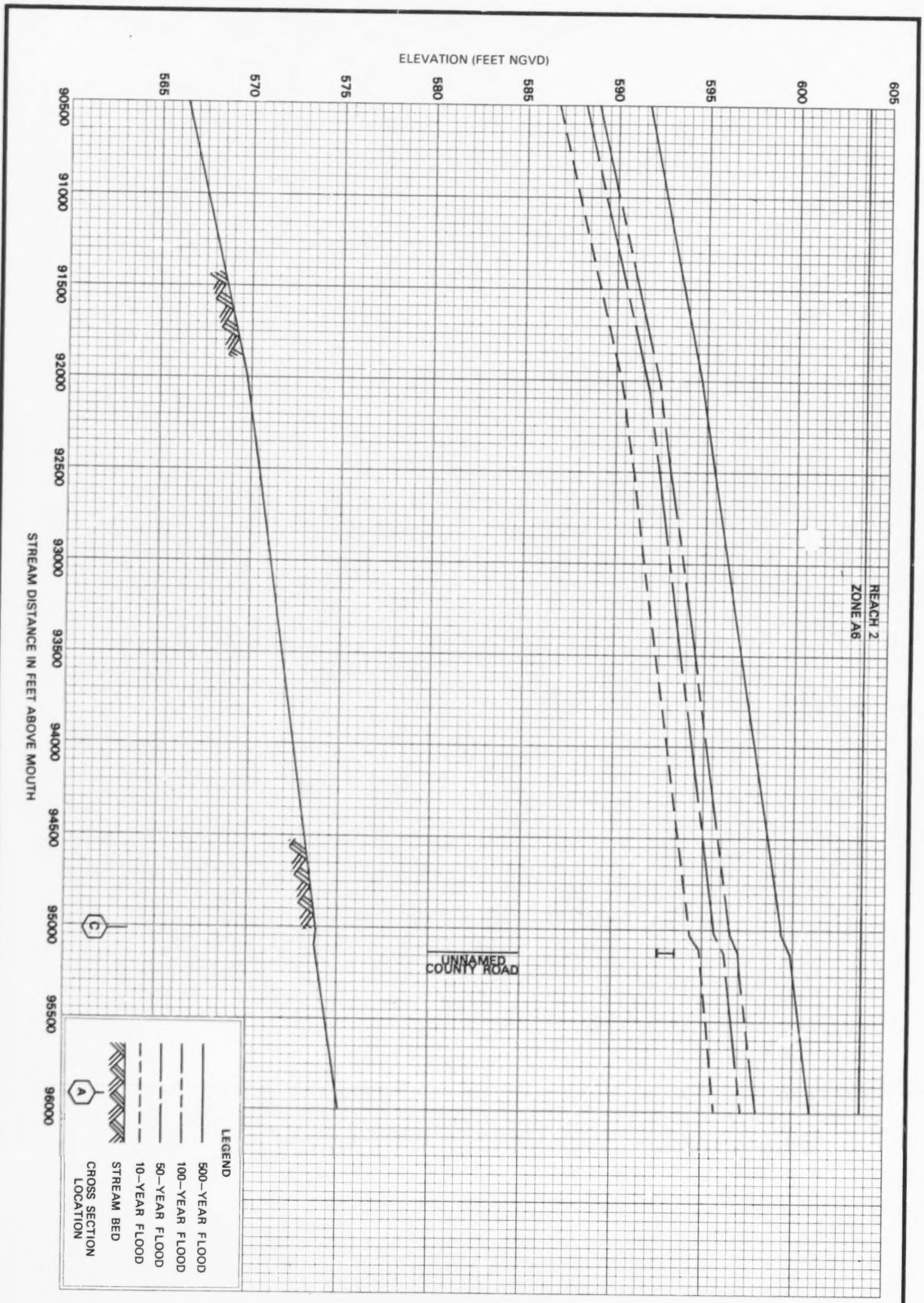
FLOOD PROFILES

WILSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

16P



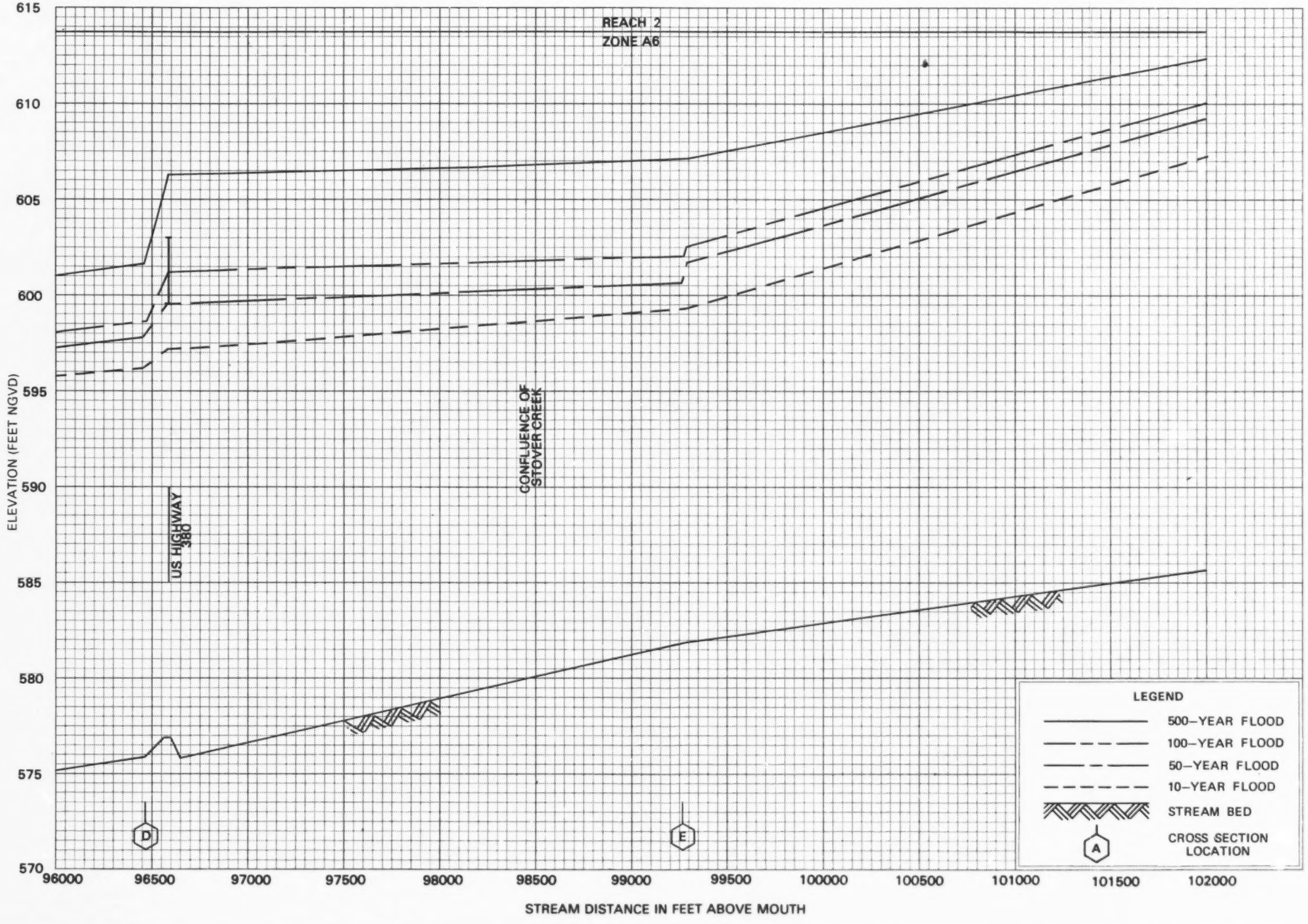
17P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

WILSON CREEK

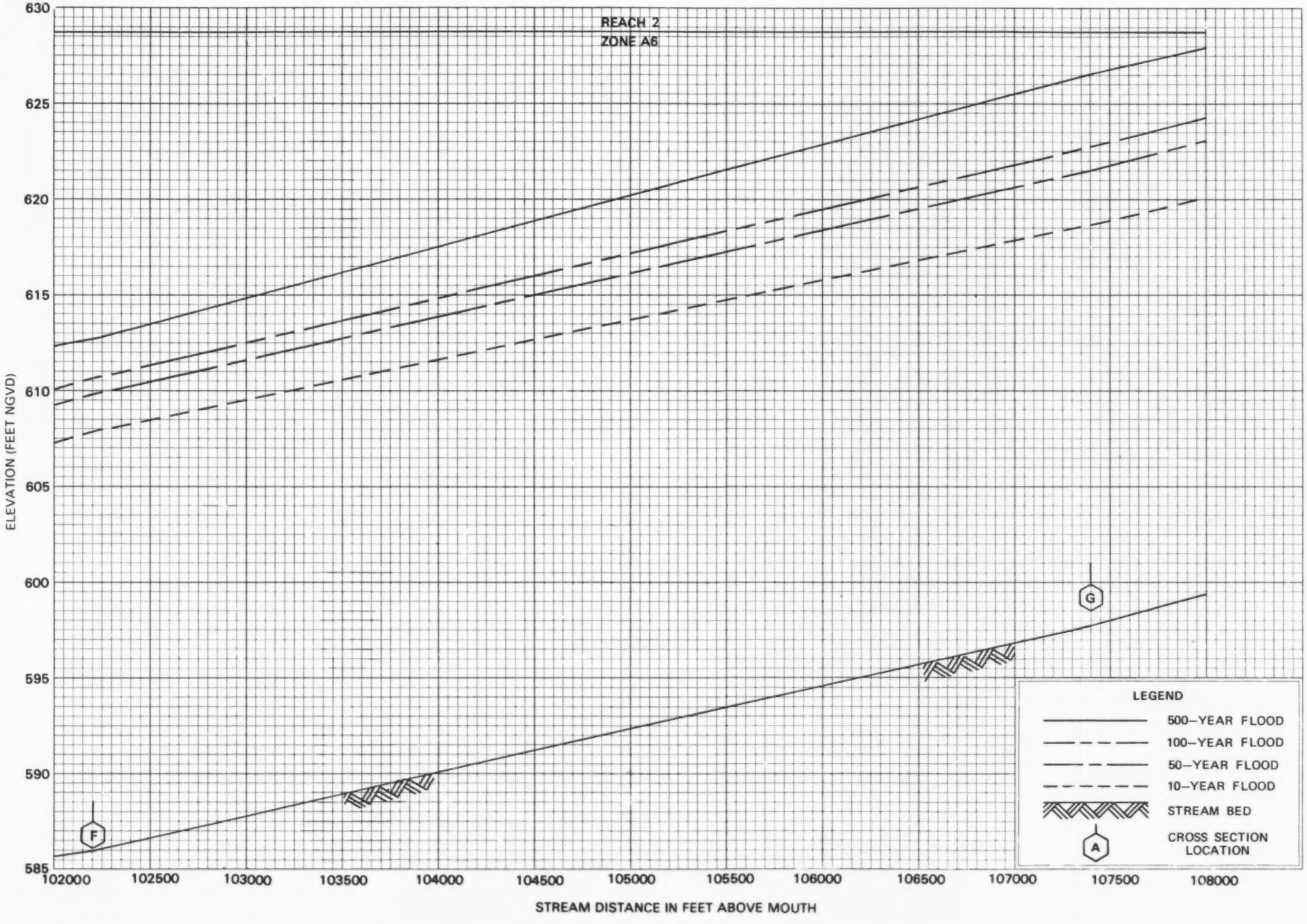


FLOOD PROFILES

WILSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)



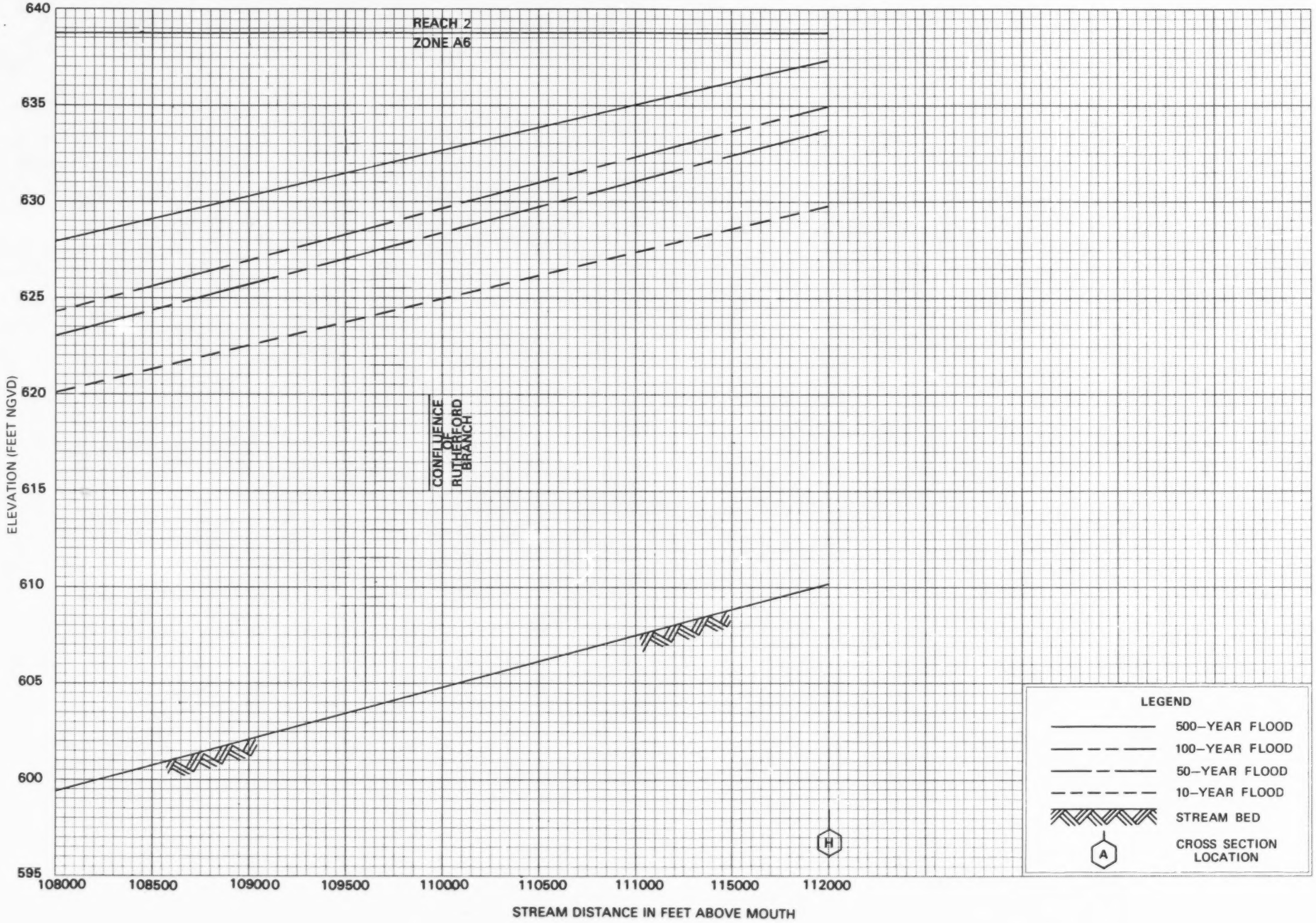
FLOOD PROFILES

WILSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

19P

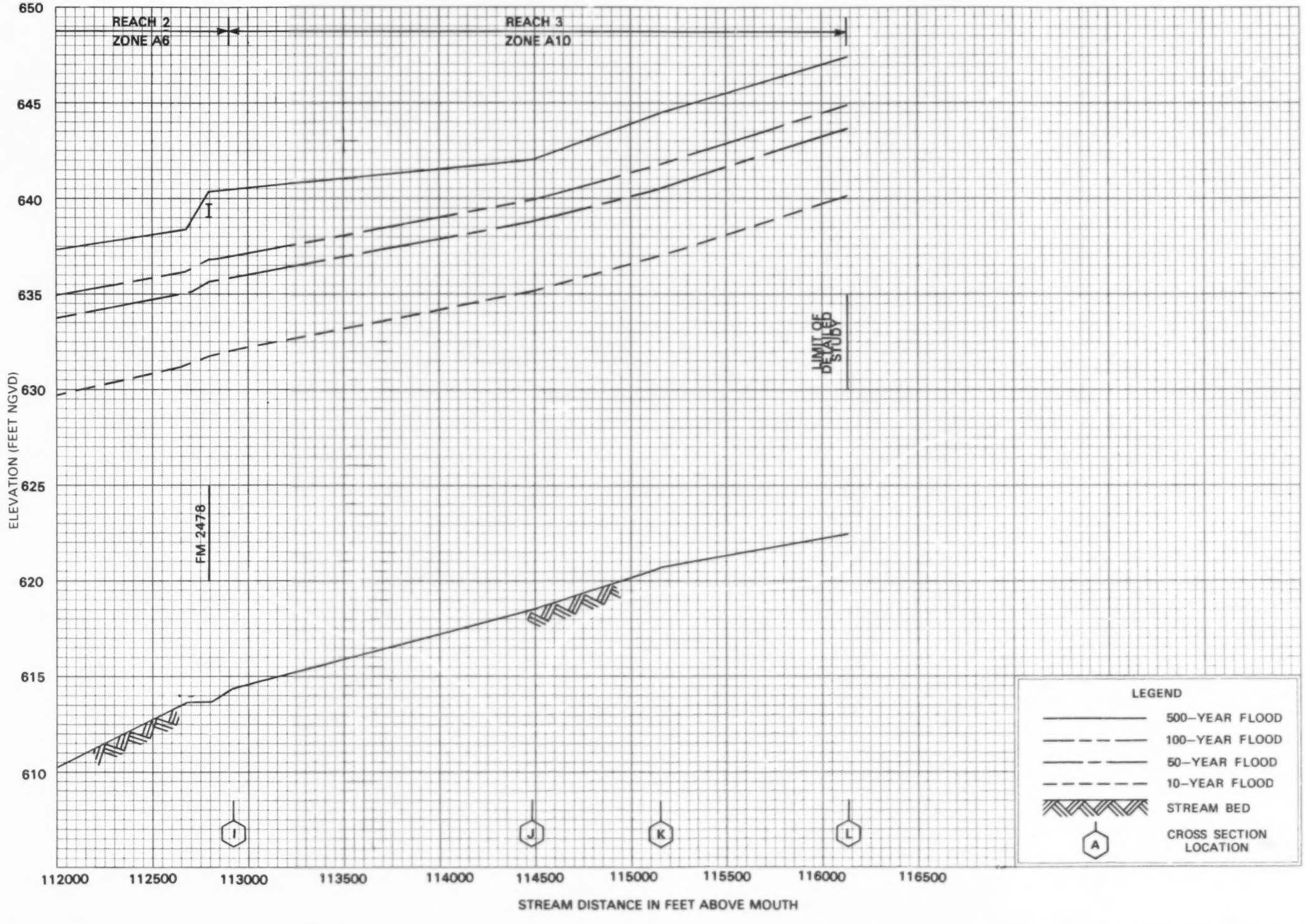


FLOOD PROFILES

WILSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)



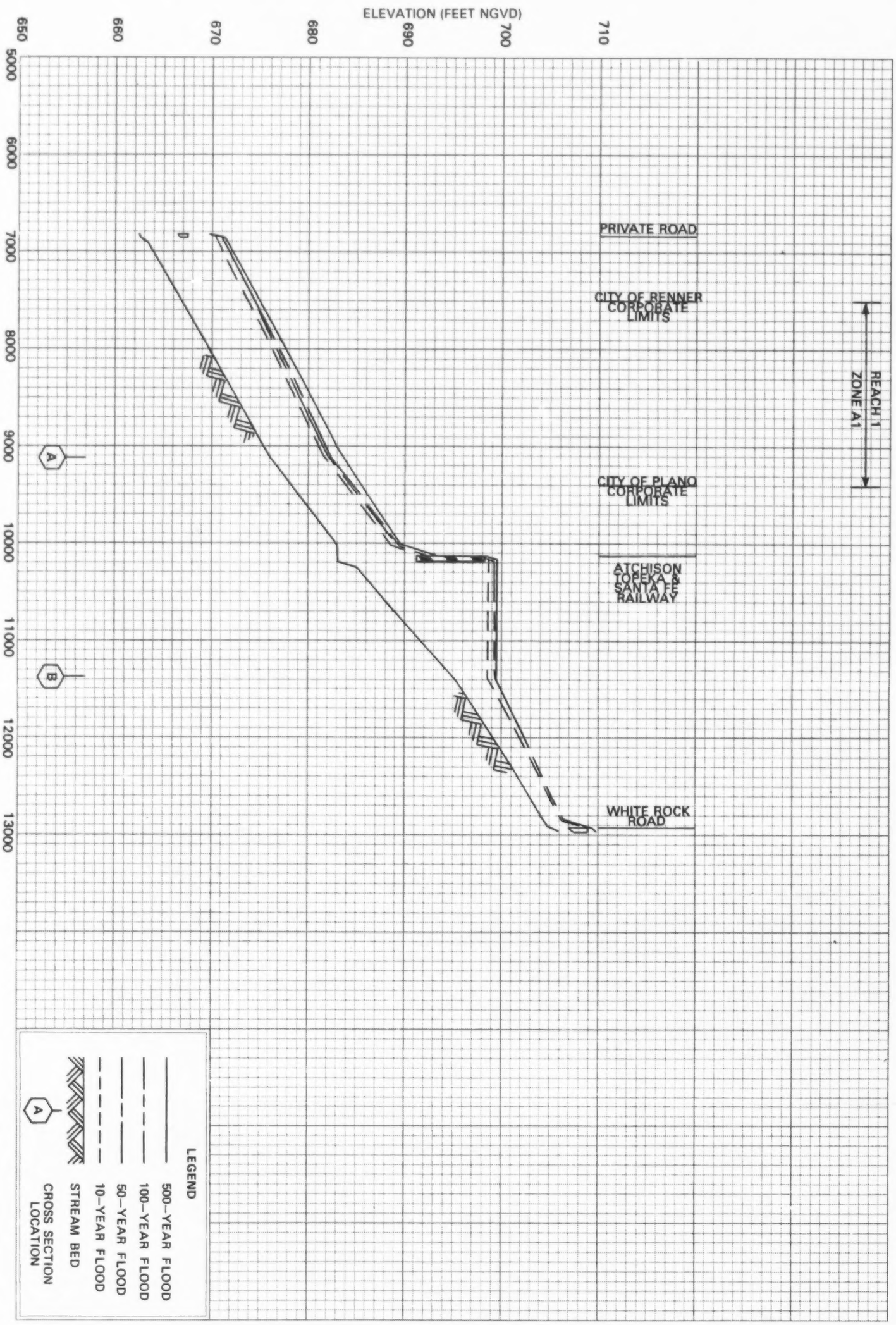
FLOOD PROFILES

WILSON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

21P



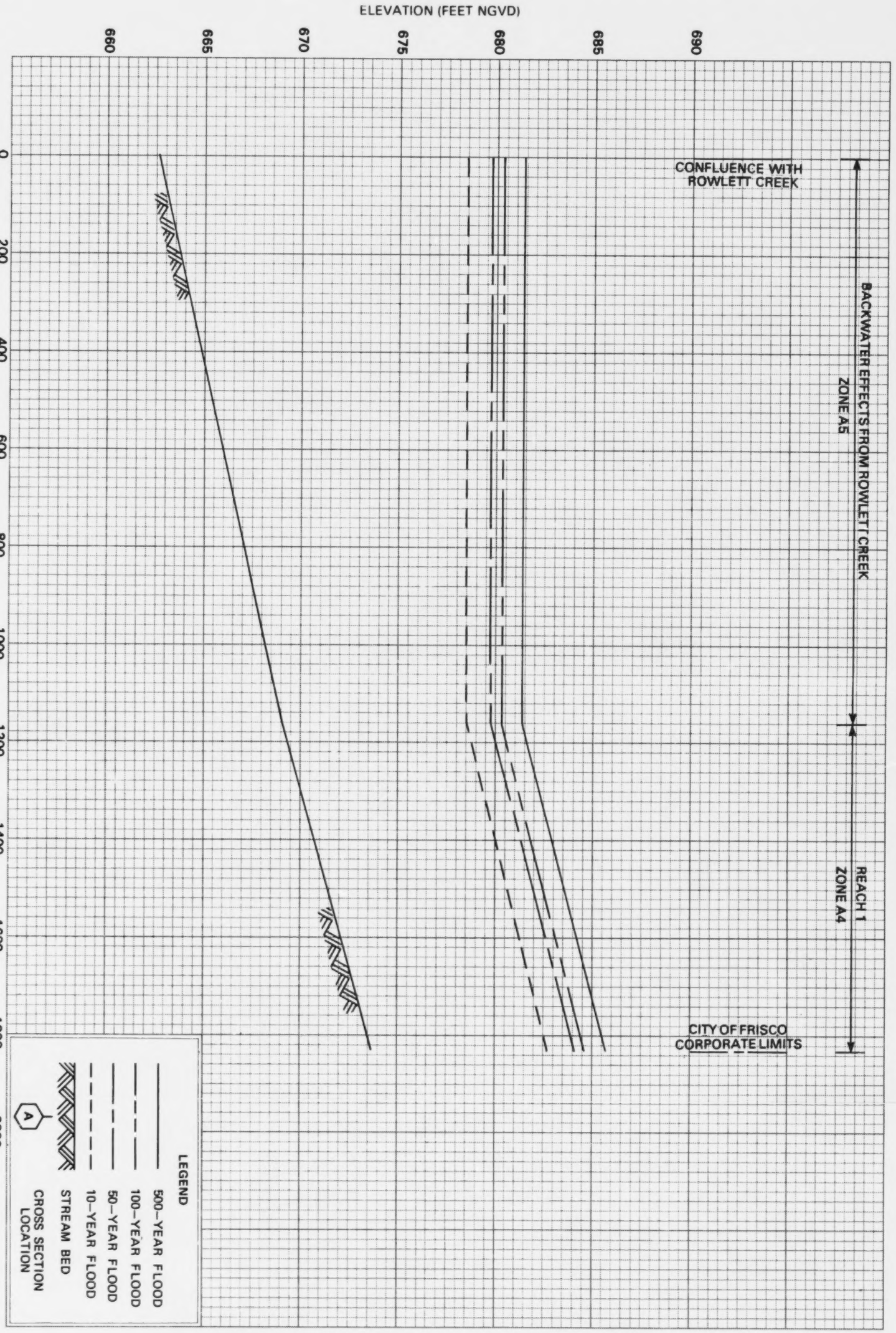
22P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

STREAM 5B13



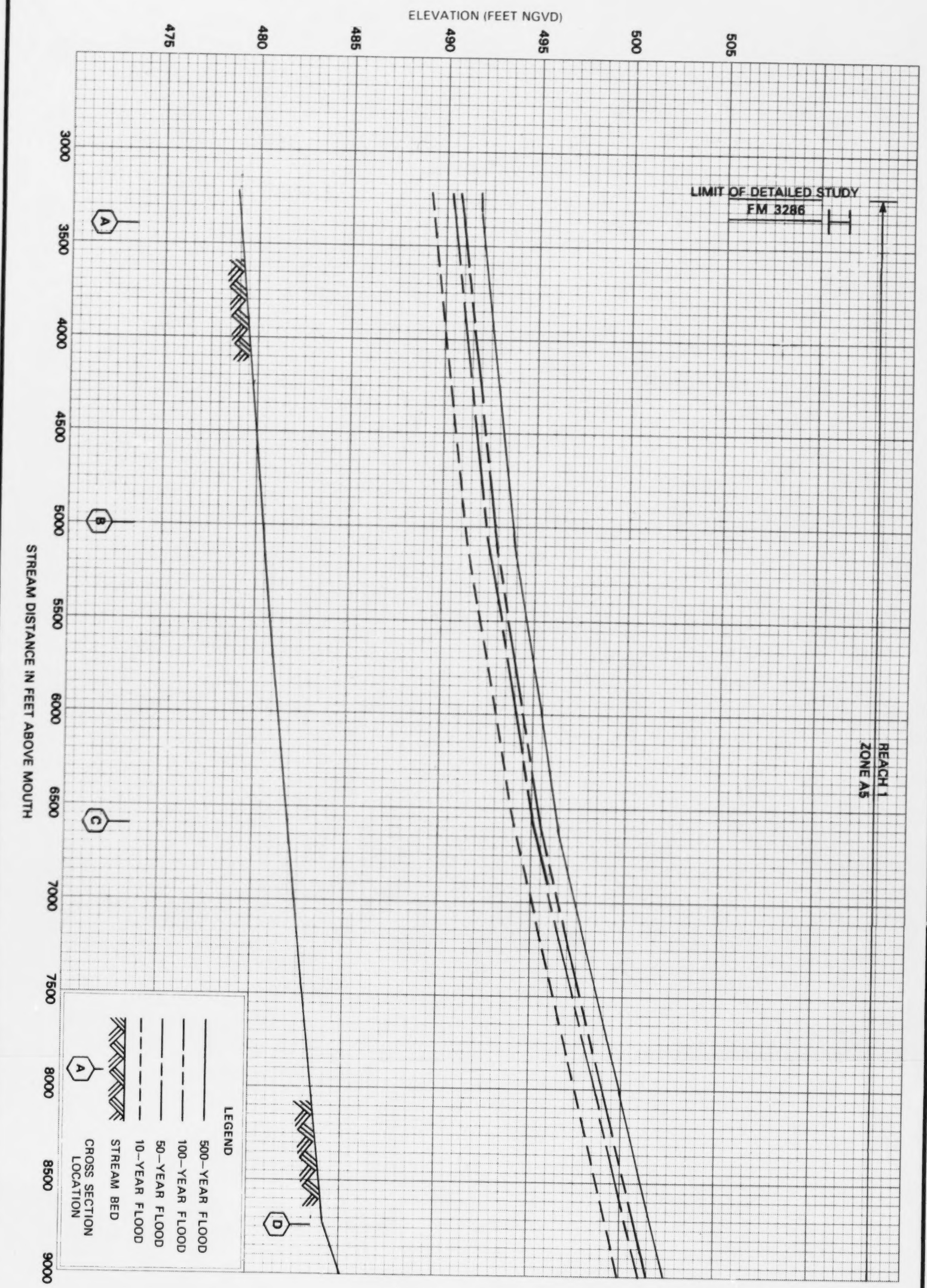
23P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

TRIBUTARY TO ROWLETT CREEK



24P

FEDERAL EMERGENCY MANAGEMENT AGENCY

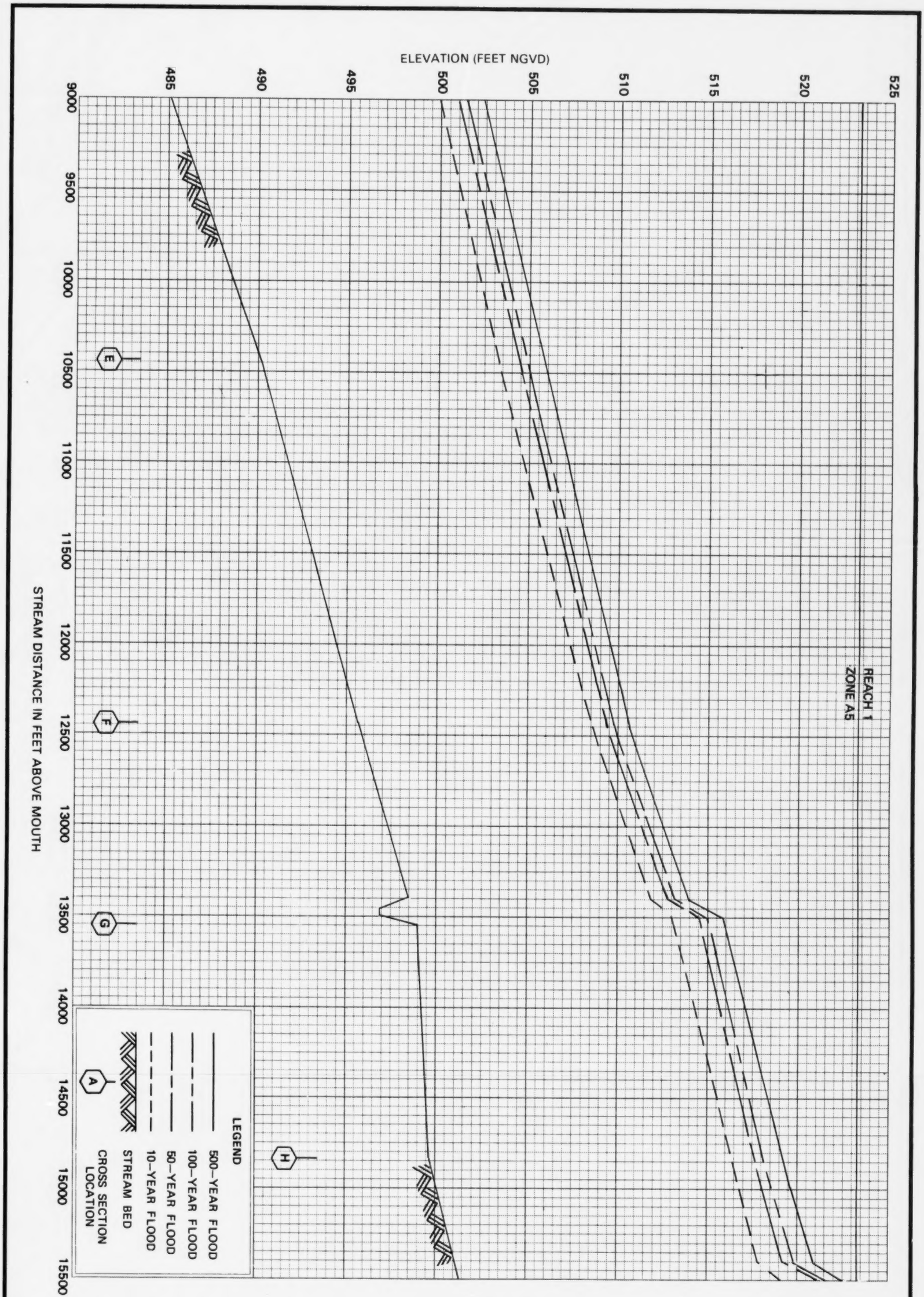
Federal Insurance Administration

COLLIN COUNTY, TX

(UNINCORPORATED AREAS)

FLOOD PROFILES

WHITE ROCK CREEK-EAST



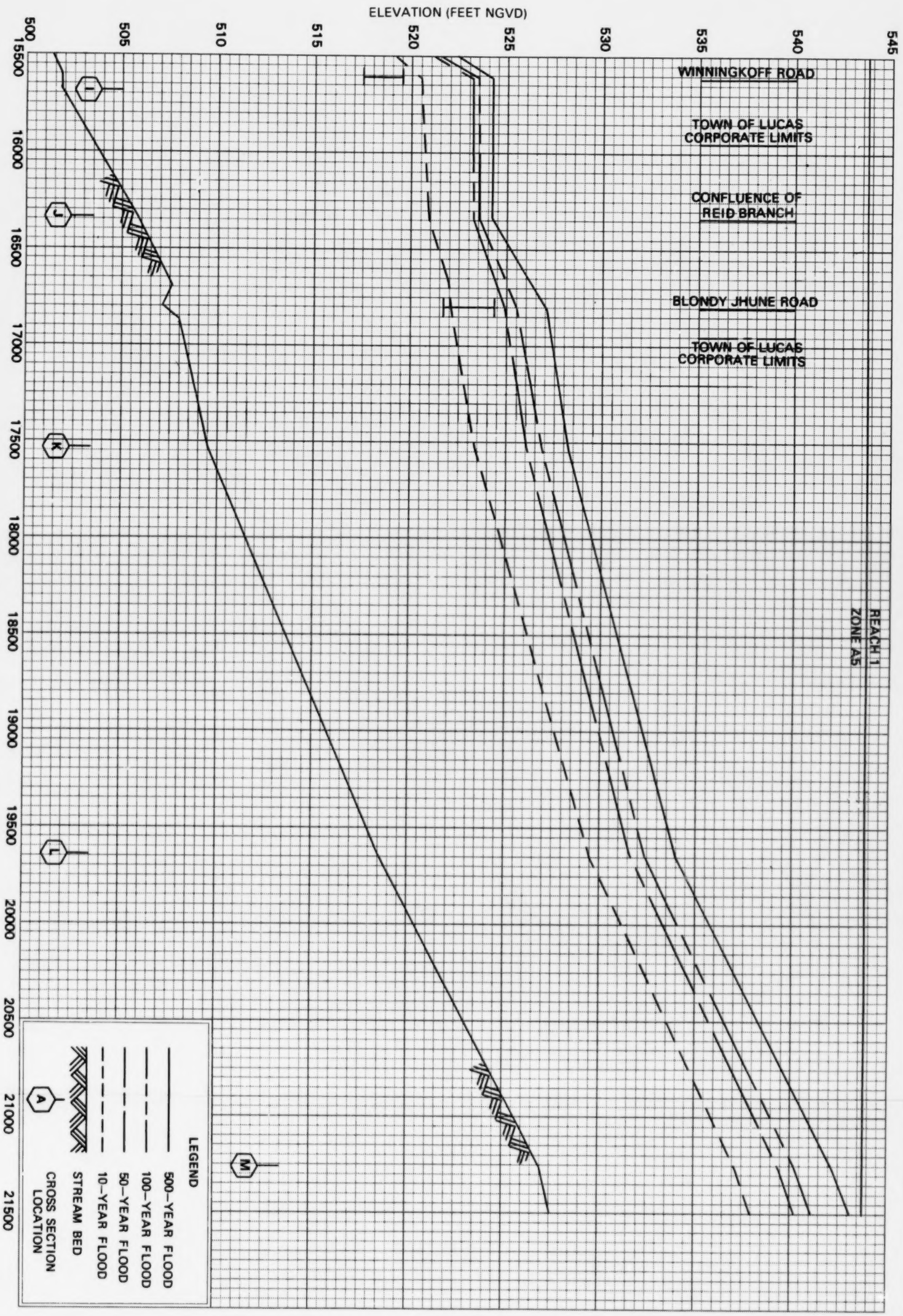
FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

WHITE ROCK CREEK-EAST

25P

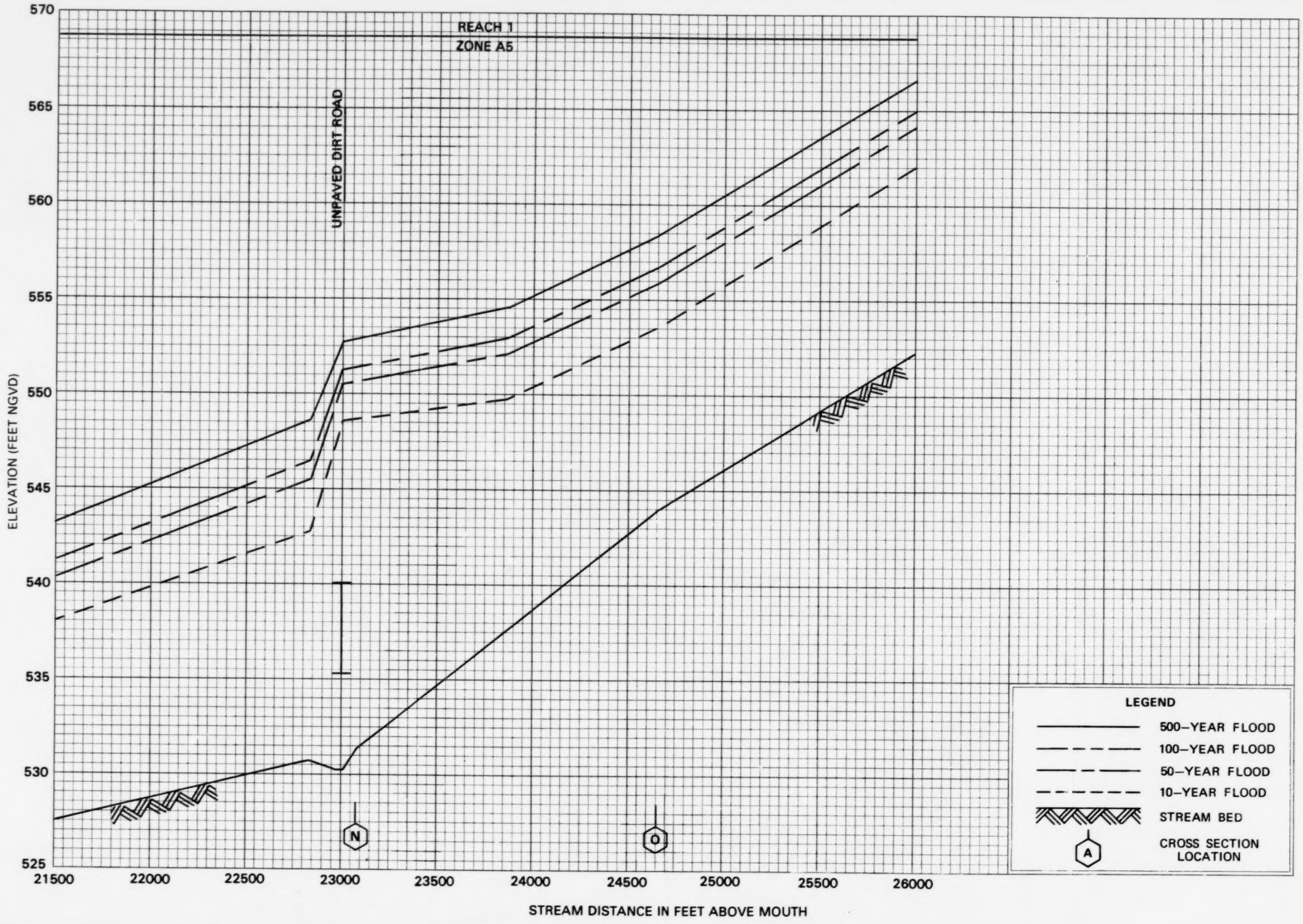


FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

WHITE ROCK CREEK-EAST



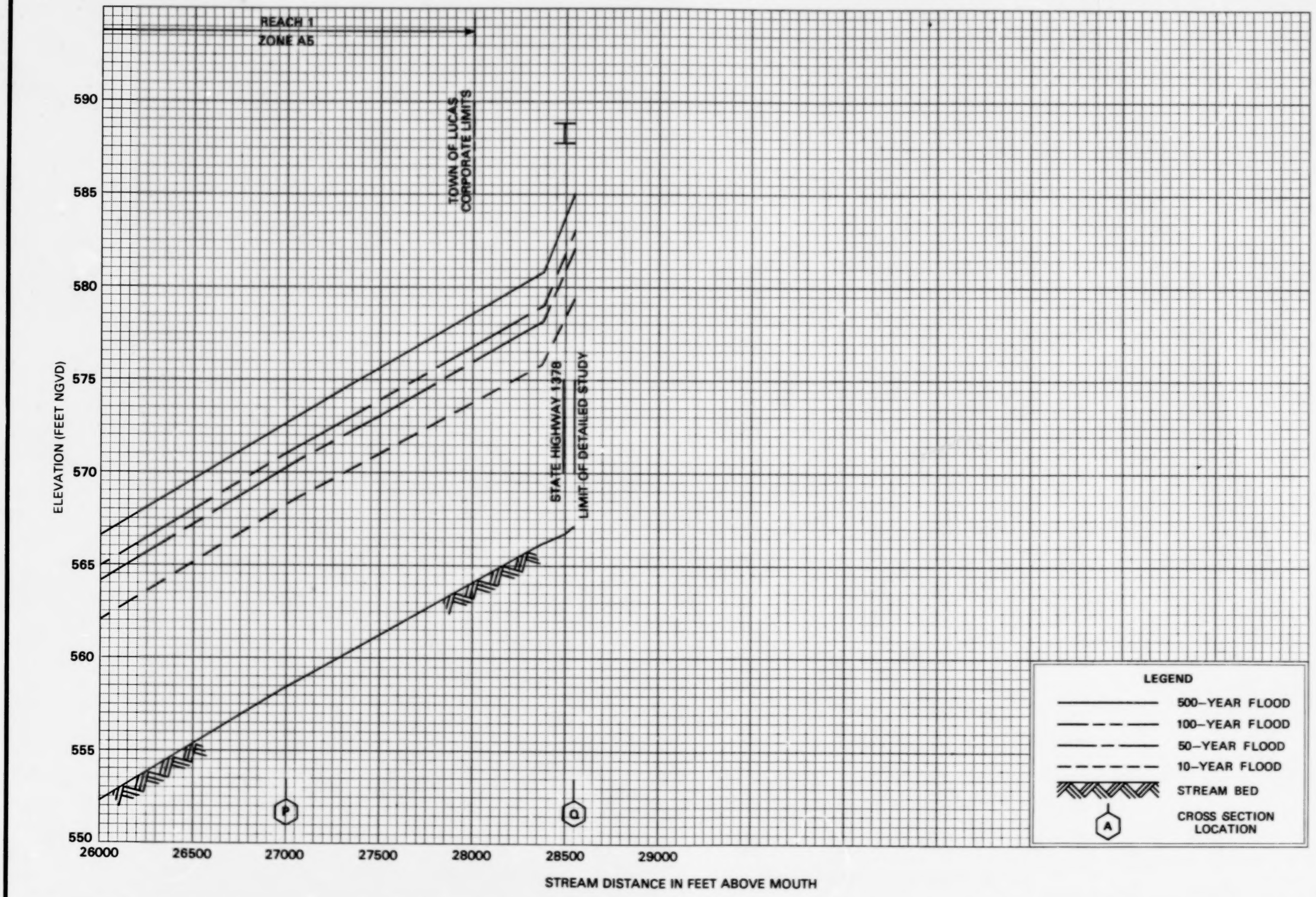
FLOOD PROFILES

WHITE ROCK CREEK EAST

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX

27P



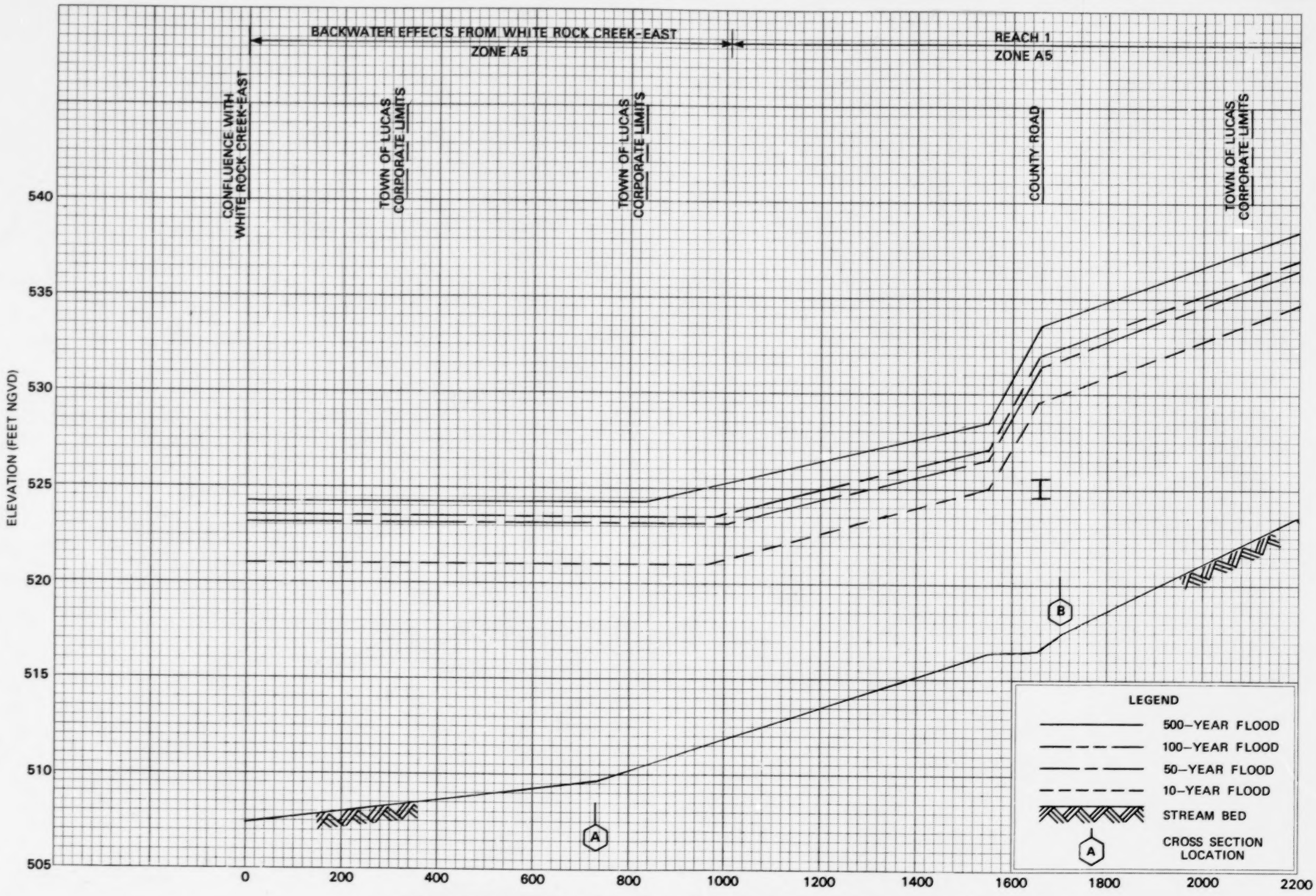
FLOOD PROFILES

WHITE ROCK CREEK EAST

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX

28P



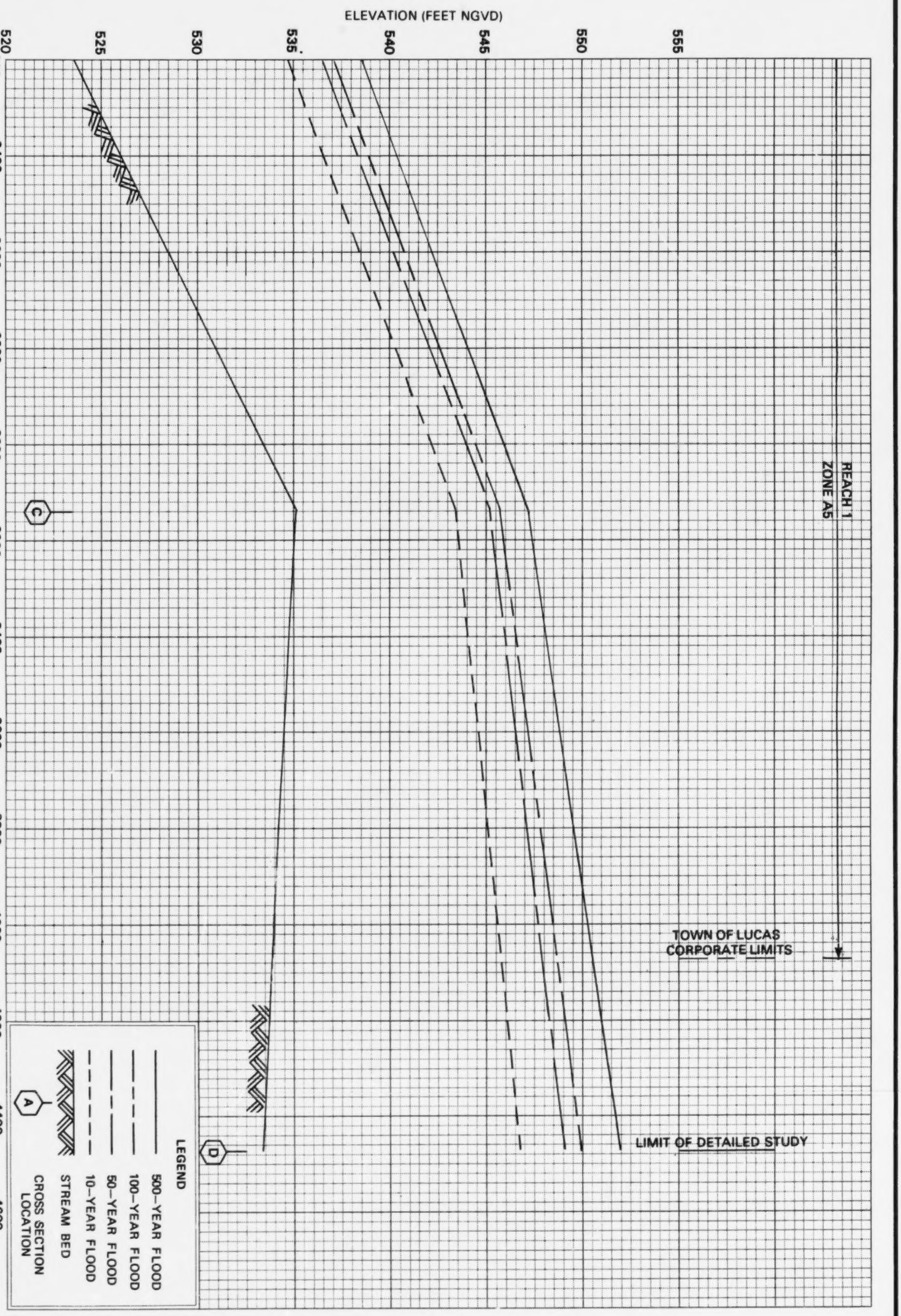
FLOOD PROFILES

REID BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

29P



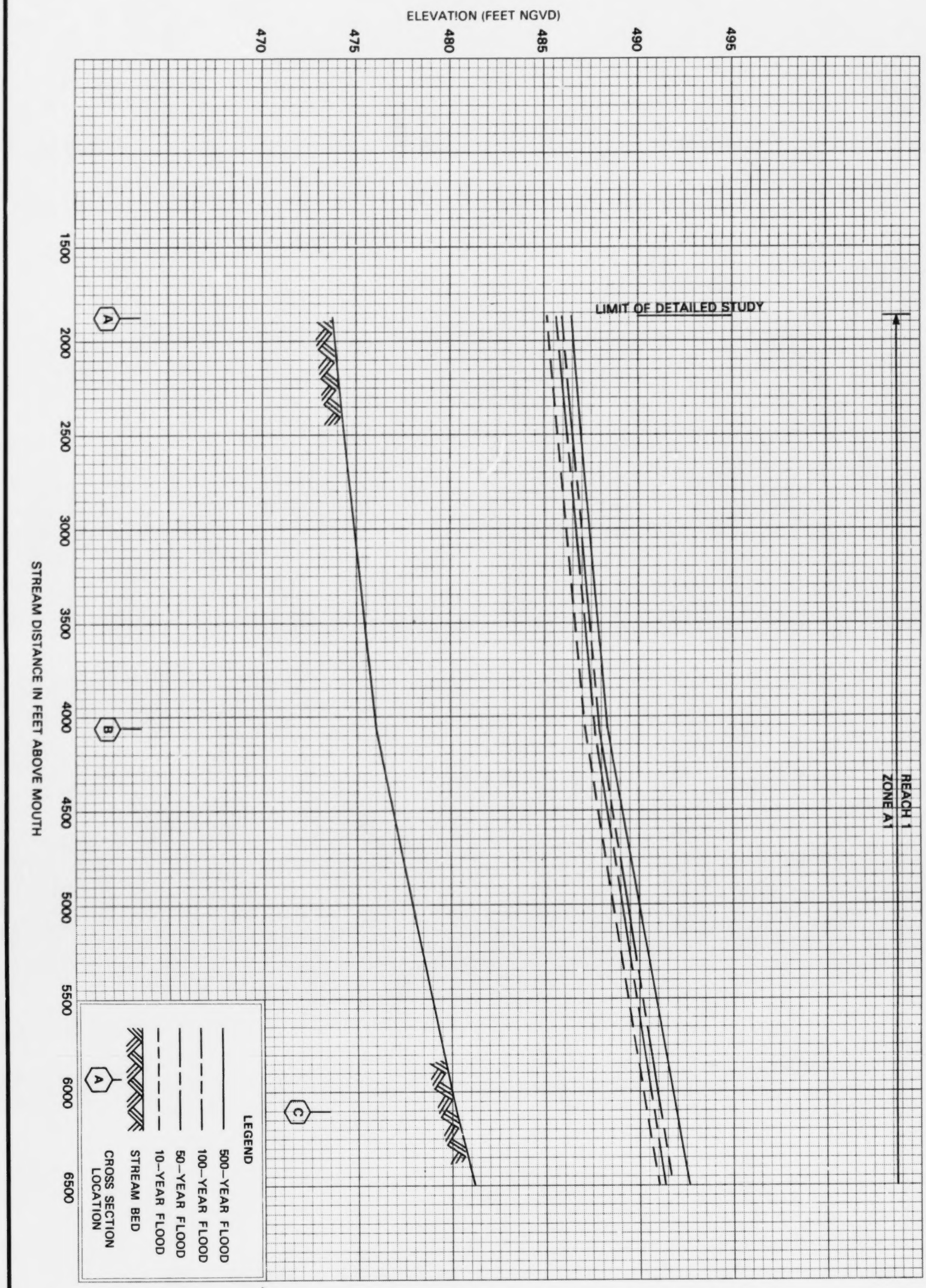
30P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

REID BRANCH

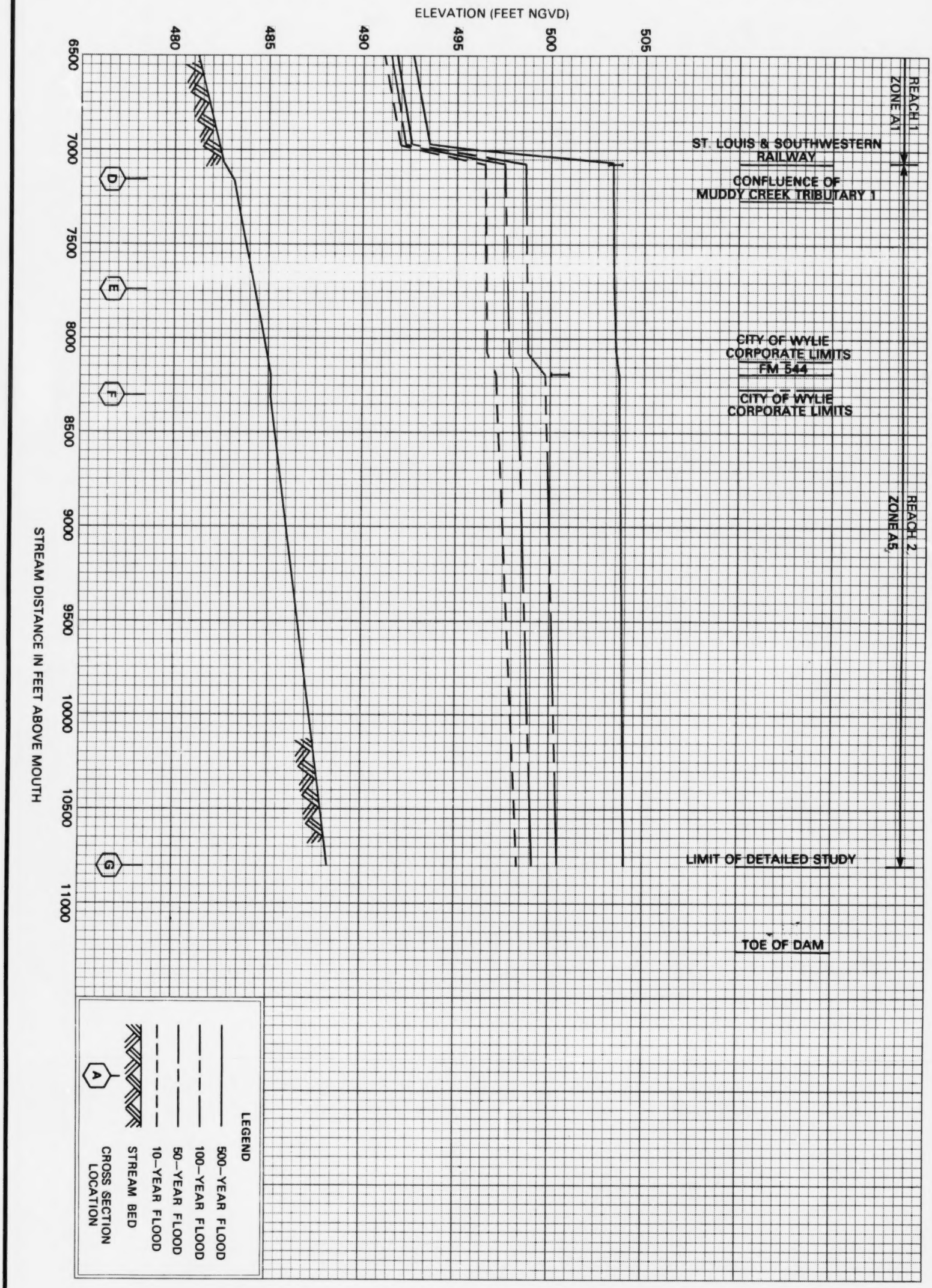


FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

MUDDY CREEK (DOWNSTREAM)



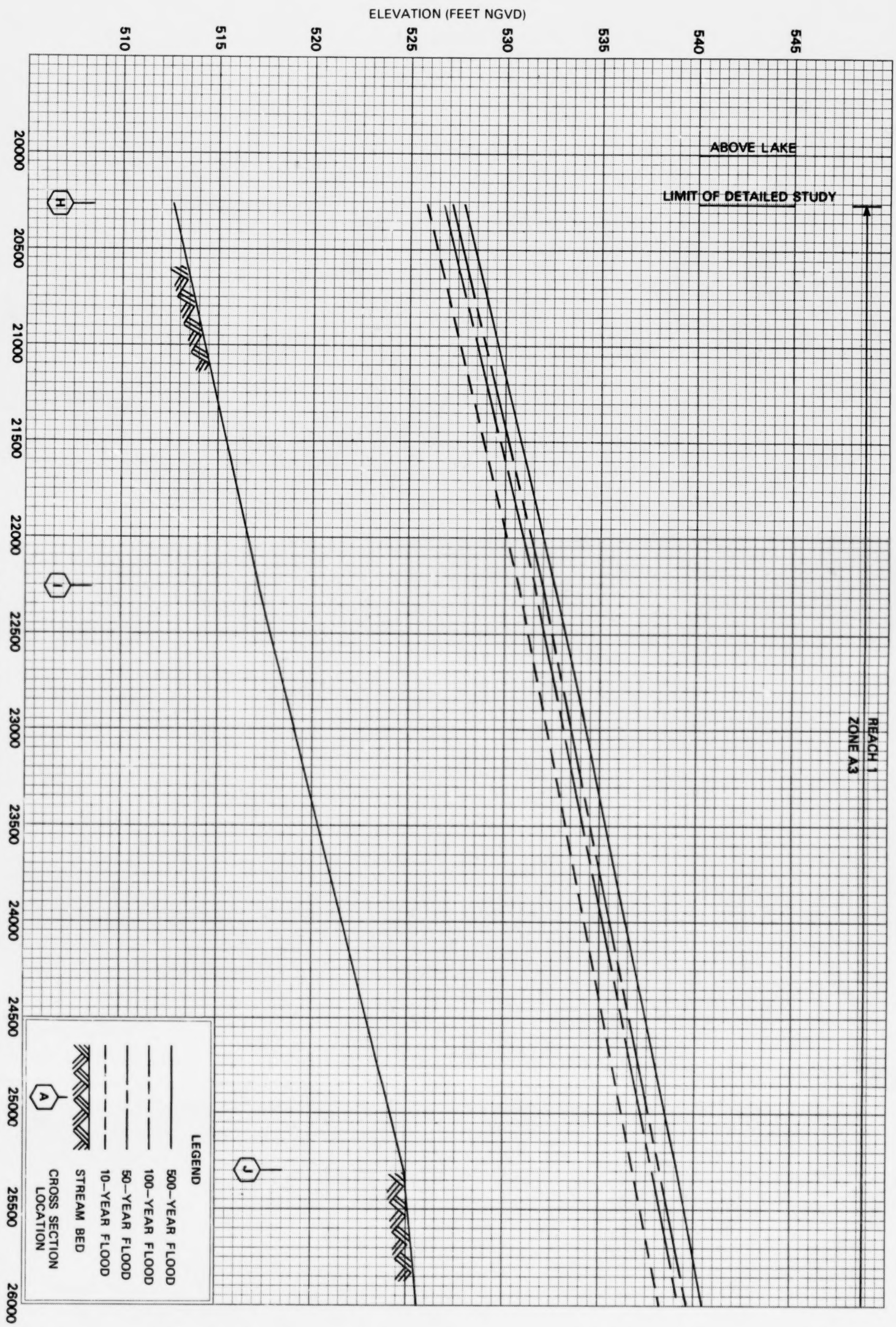
32P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

MUDDY CREEK (DOWNSTREAM)



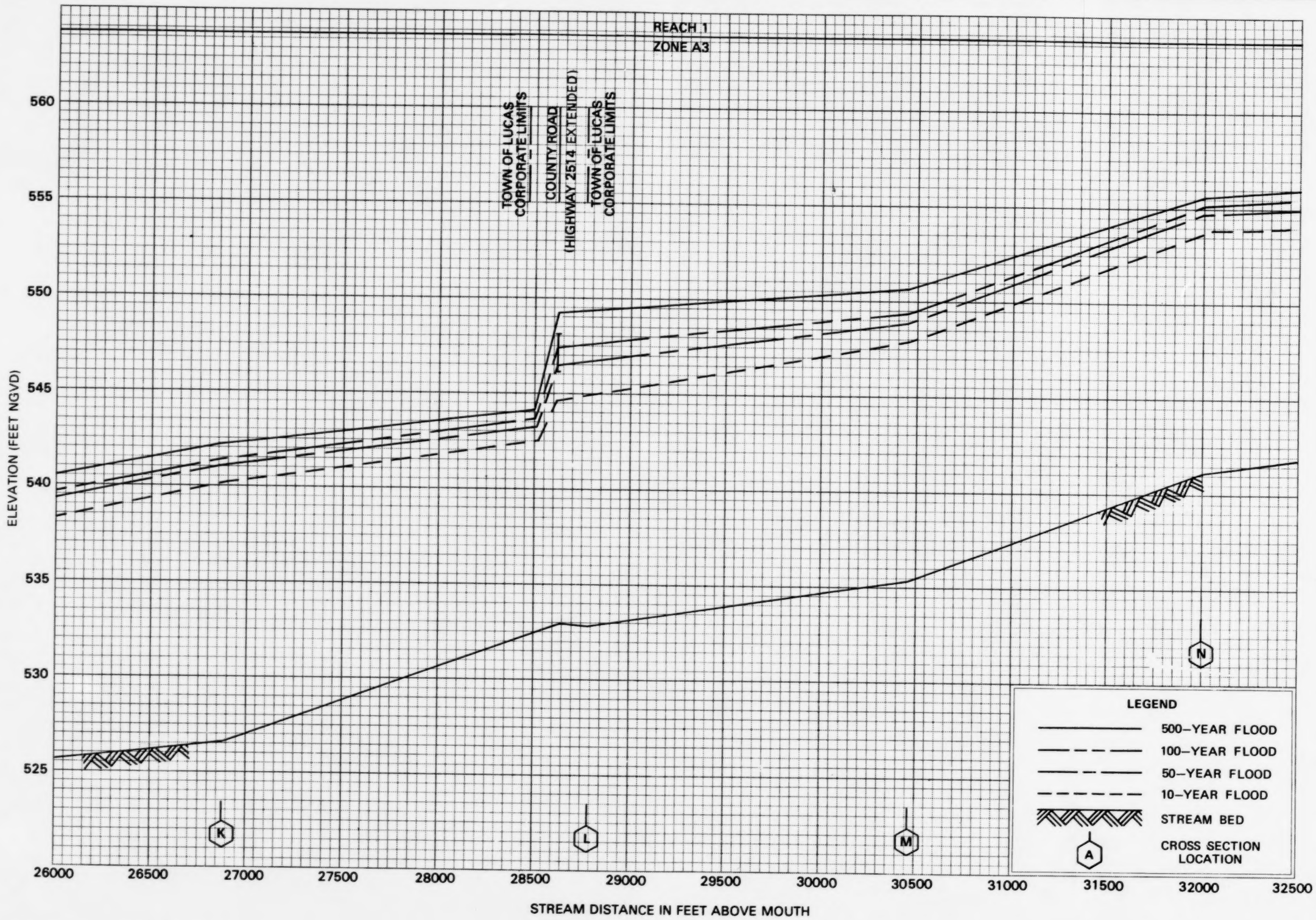
33P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

MUDDY CREEK (UPSTREAM)



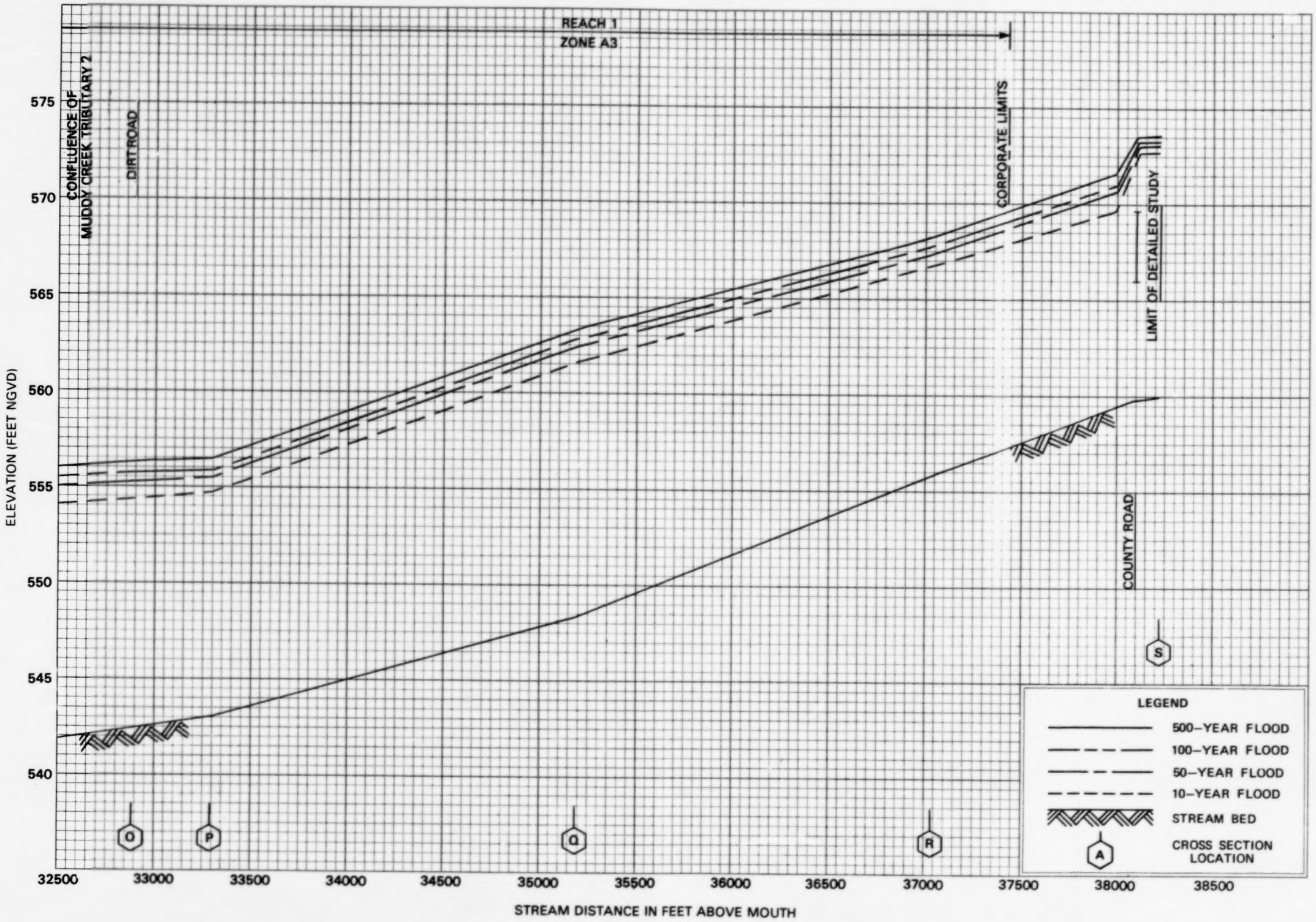
FLOOD PROFILES

MUDDY CREEK (UPSTREAM)

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

34P



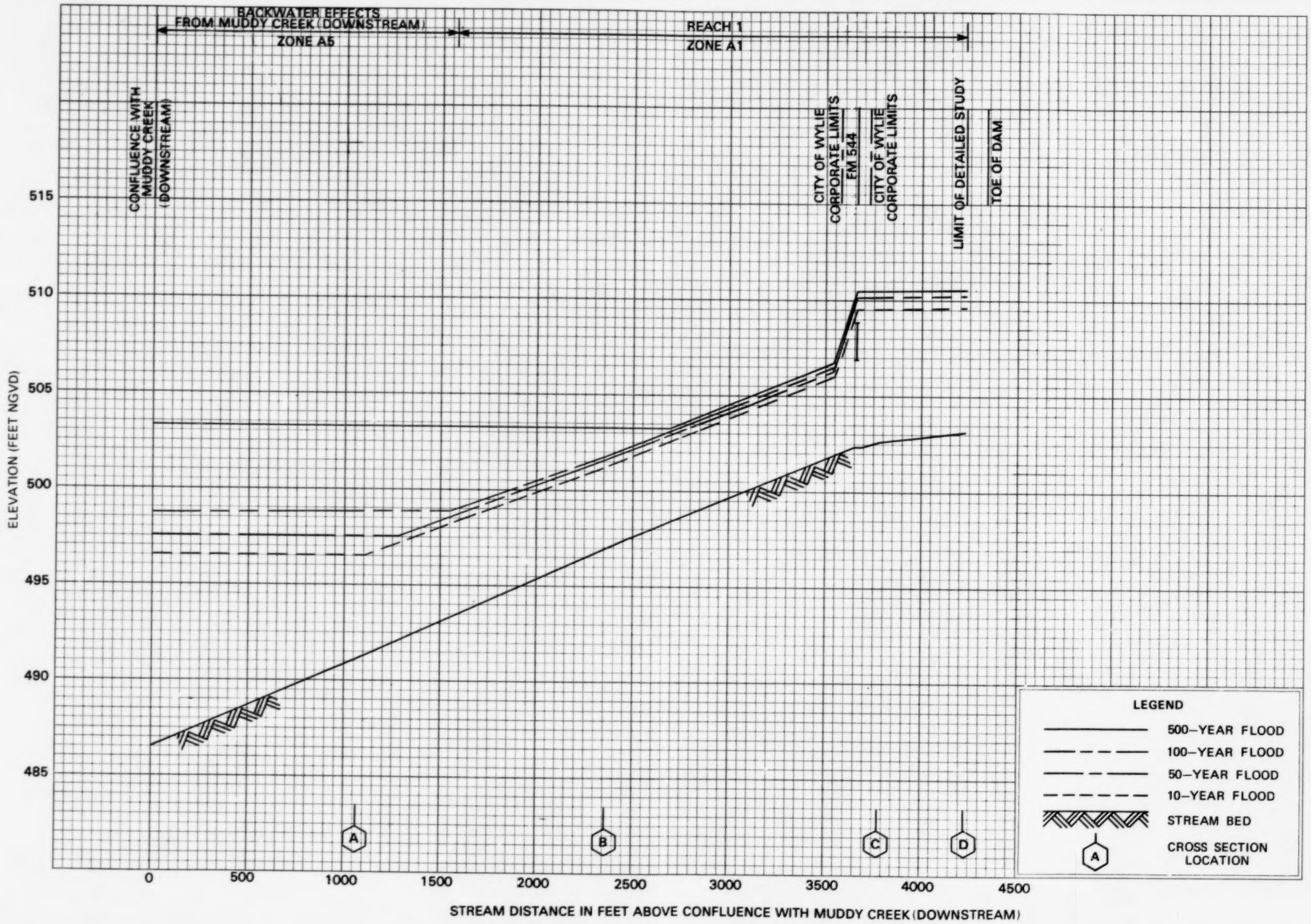
FLOOD PROFILES

MUDDY CREEK(UPSTREAM)

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

35P



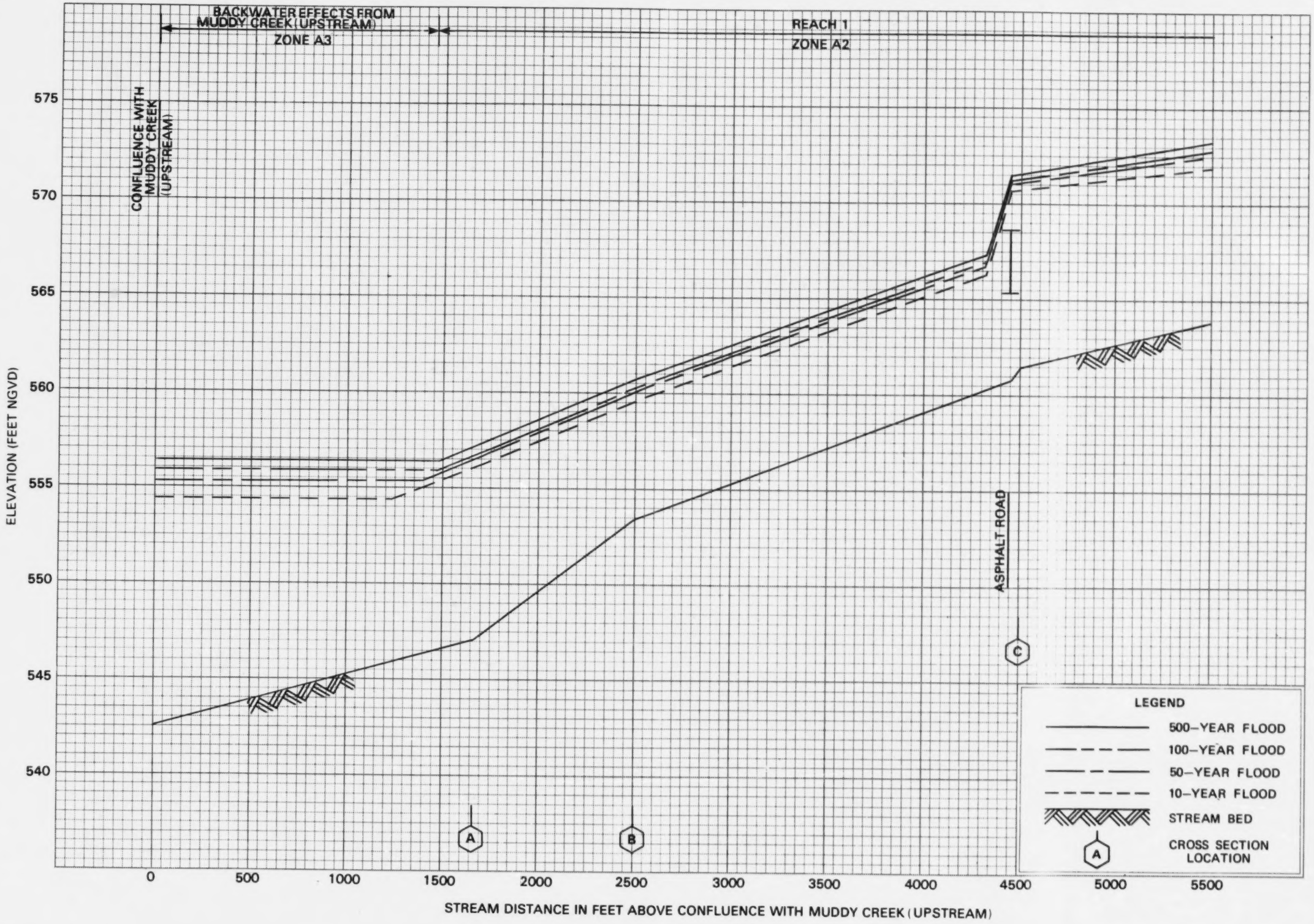
FLOOD PROFILES

MUDDY CREEK TRIBUTARY 1

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

36P



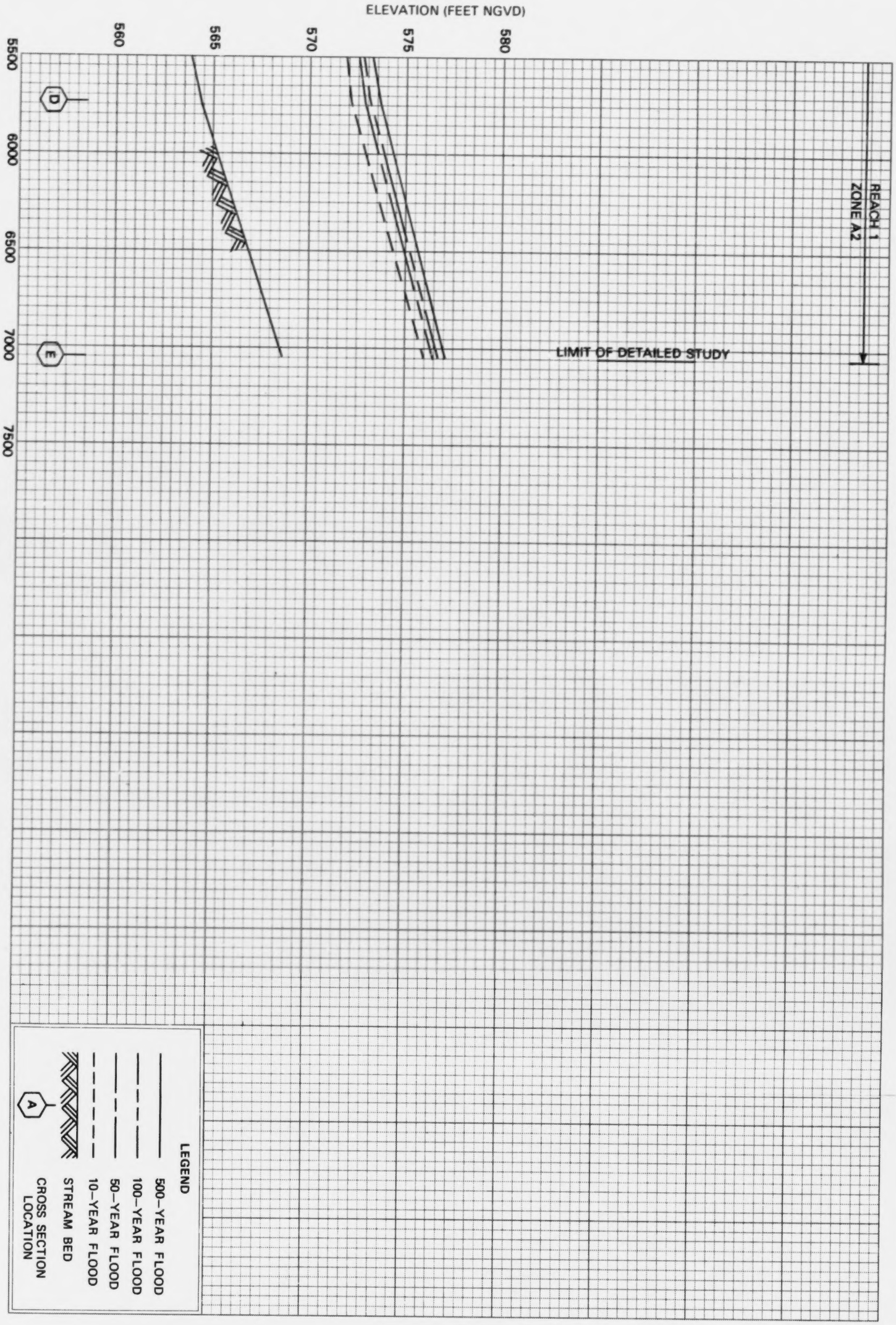
FLOOD PROFILES

MUDDY CREEK TRIBUTARY 2

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

37P



38P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

MUDDY CREEK TRIBUTARY 2

ELEVATION (FEET NGVD)

670 680 690

4500 5000 5500 6000 6500

STREAM DISTANCE IN FEET ABOVE MOUTH

CITY OF RENNER
CORPORATE LIMITS

CITY OF PLANO
CORPORATE LIMITS

REACH 1

ZONE A1

LIMIT OF DETAILED STUDY
ATCHISON TOPEKA &
SANTA FE RAILWAY

A

LEGEND

500-YEAR FLOOD

100-YEAR FLOOD

50-YEAR FLOOD

10-YEAR FLOOD

STREAM BED

CROSS SECTION LOCATION

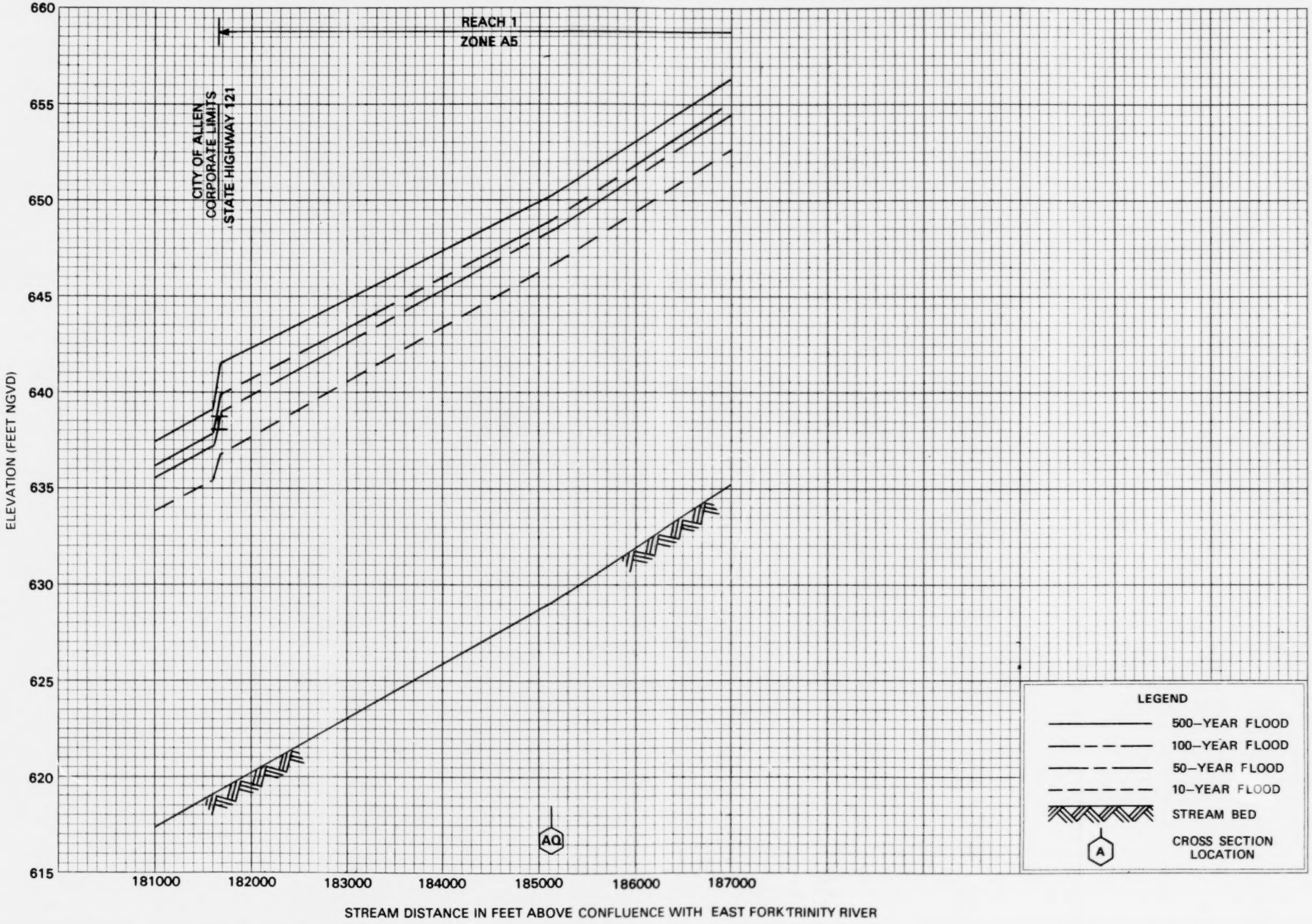
39P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

STREAM 5B14



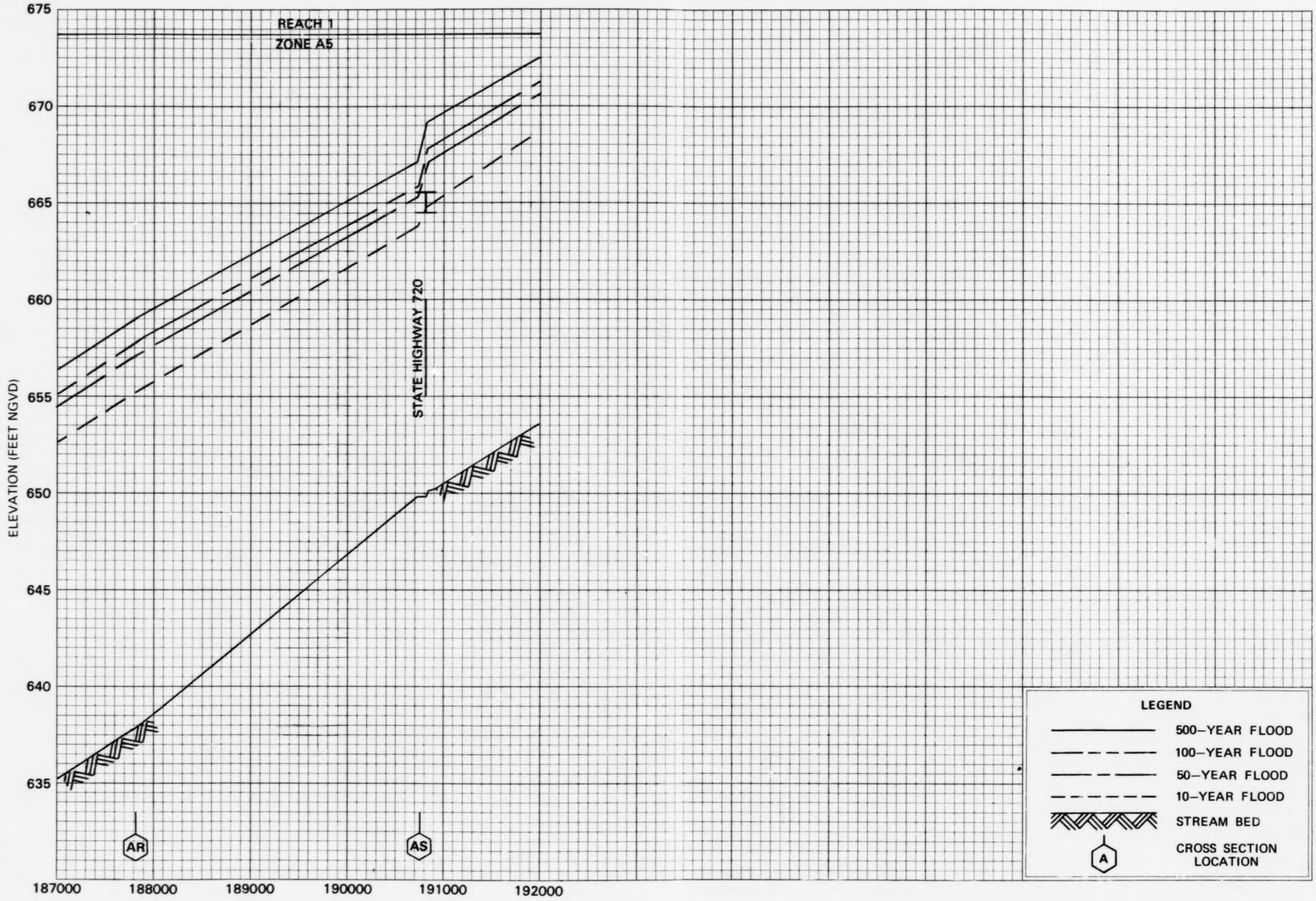
FLOOD PROFILES

ROWLETT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

40P



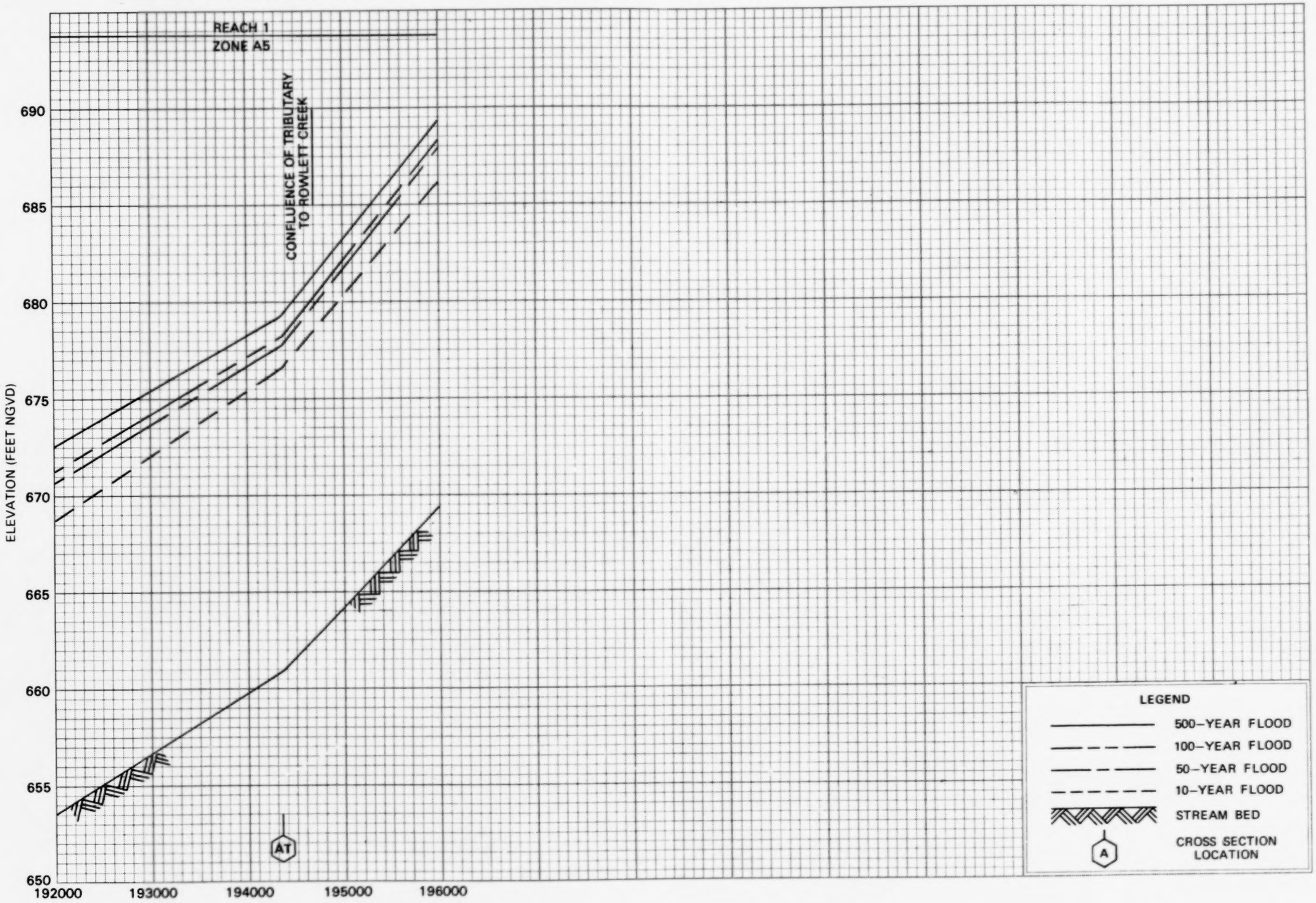
FLOOD PROFILES

ROWLETT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

41P



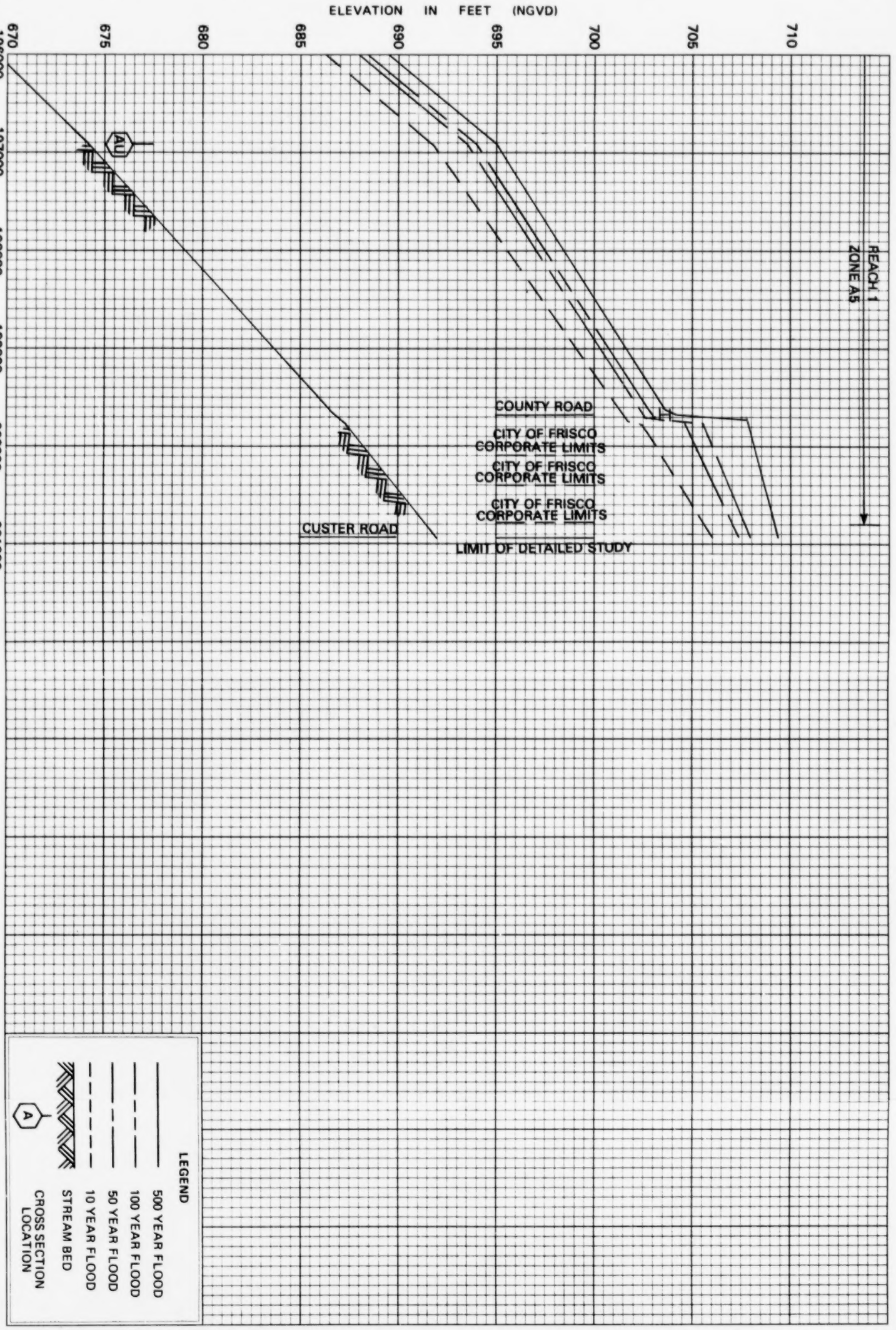
FLOOD PROFILES

ROWLETT CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

42P

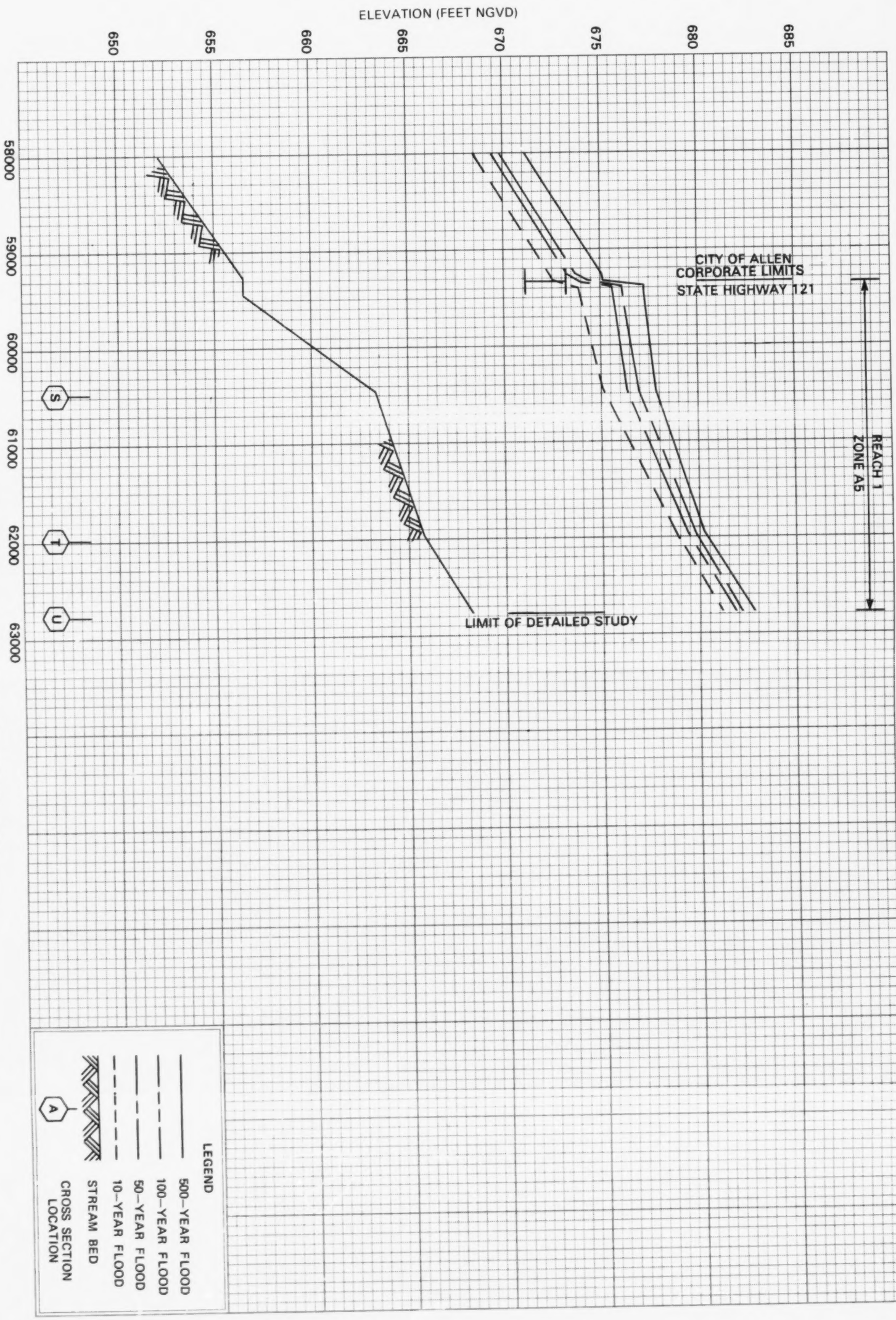


FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

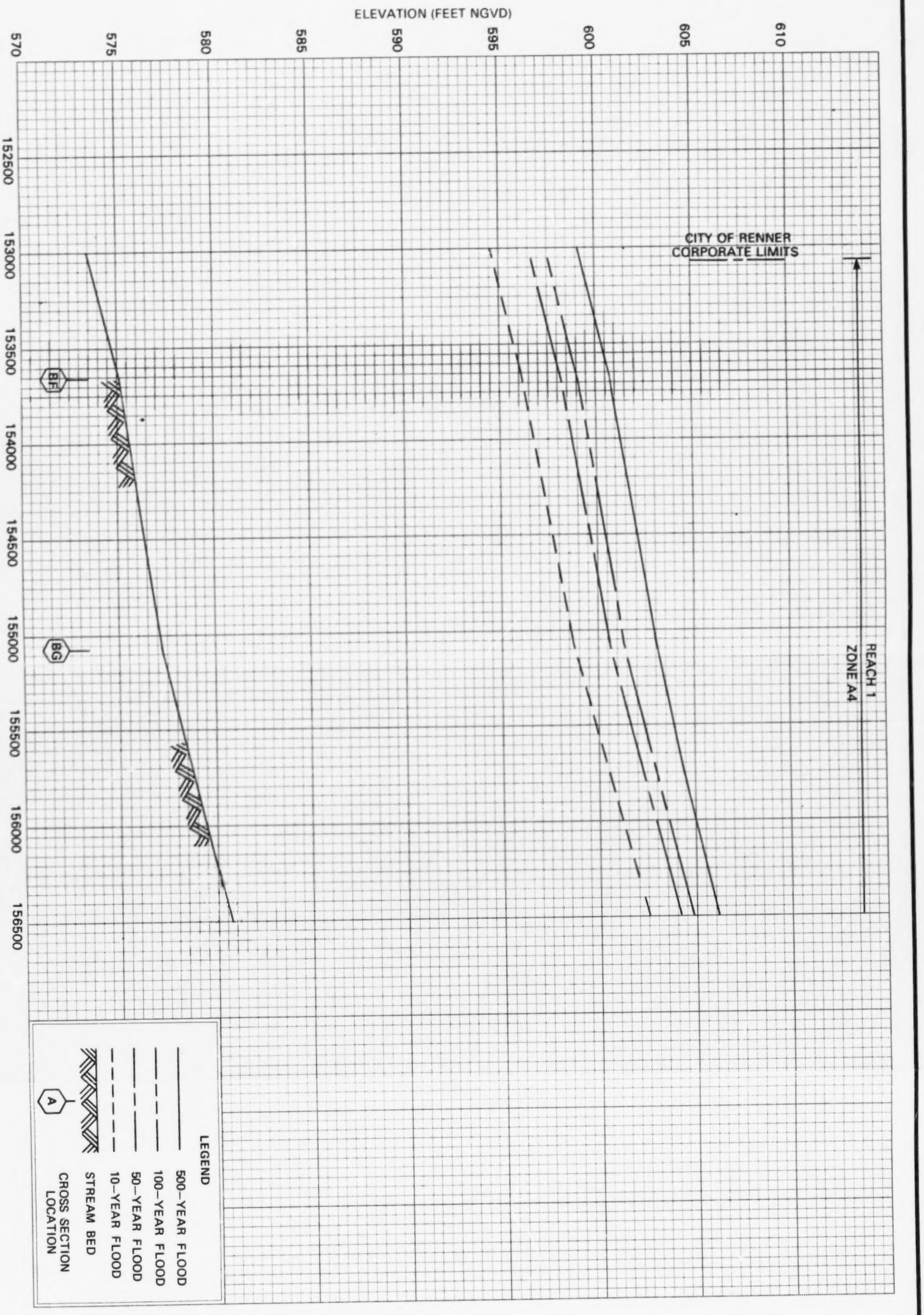
COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

ROWLETT CREEK



44P	FEDERAL EMERGENCY MANAGEMENT AGENCY Federal Insurance Administration **COLLIN COUNTY, TX** **(UNINCORPORATED AREAS)**	**FLOOD PROFILES** **COTTONWOOD CREEK**

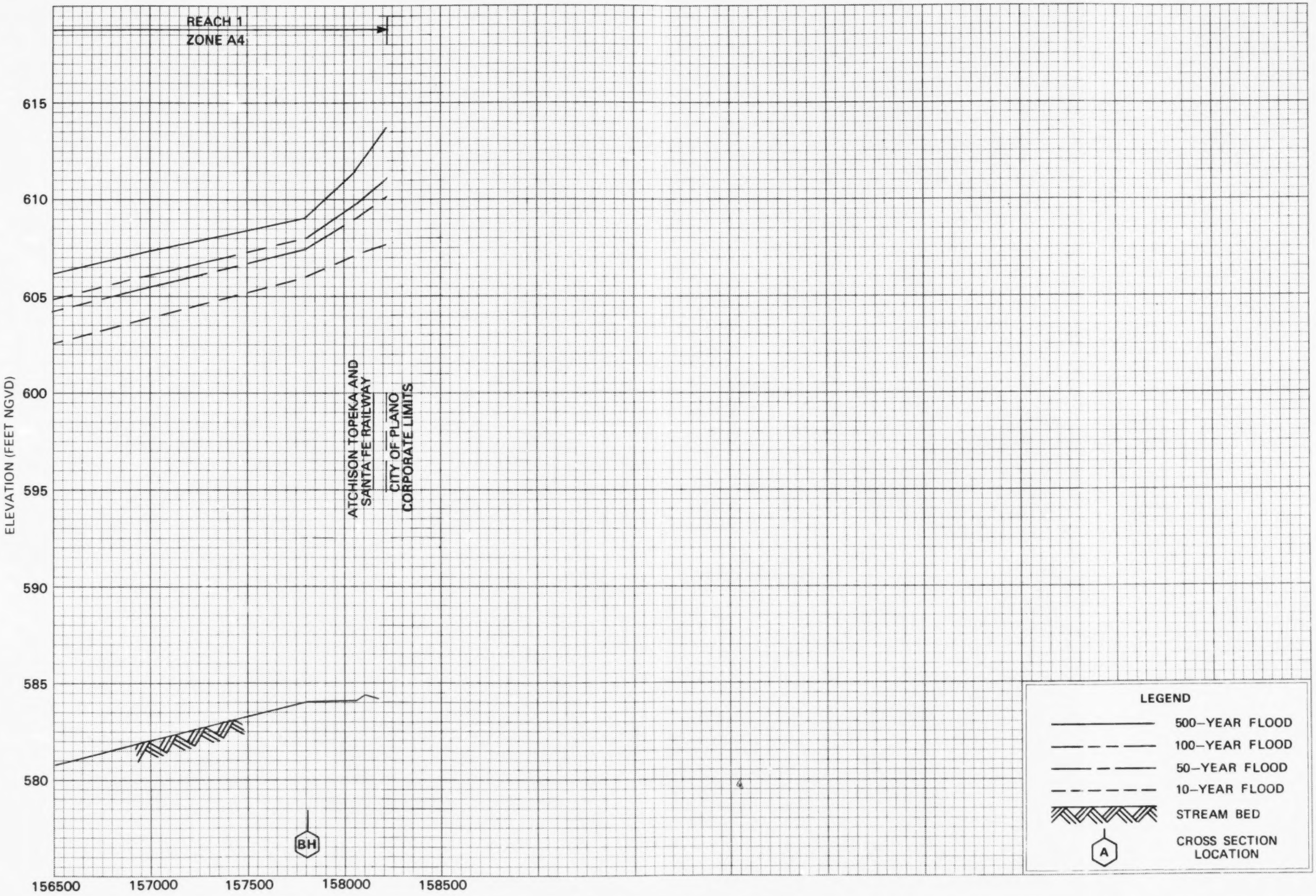


FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

WHITE ROCK CREEK-WEST



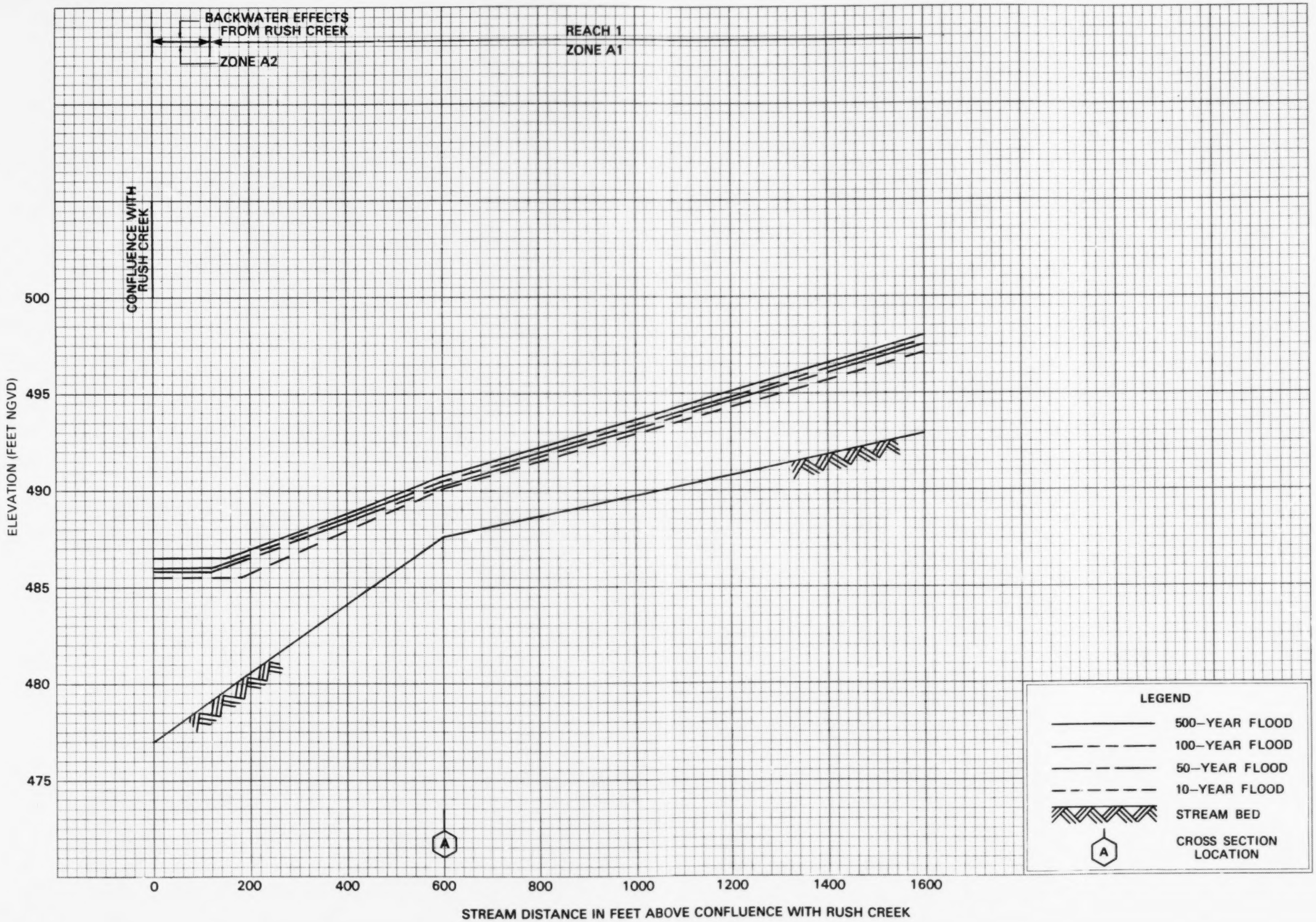
FLOOD PROFILES

WHITE ROCK CREEK-WEST

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

46P



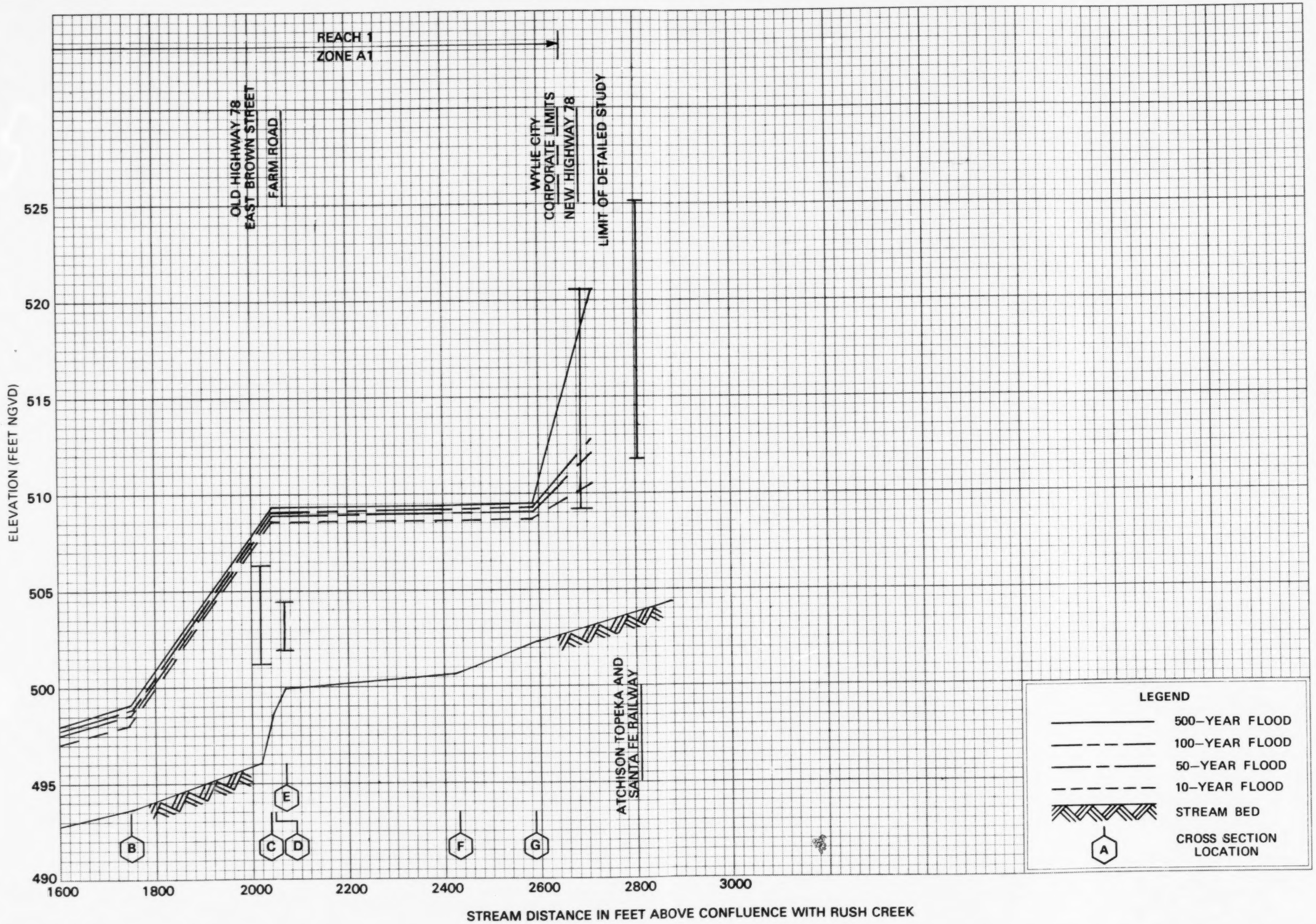
FLOOD PROFILES

RUSH CREEK TRIBUTARY

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

47P



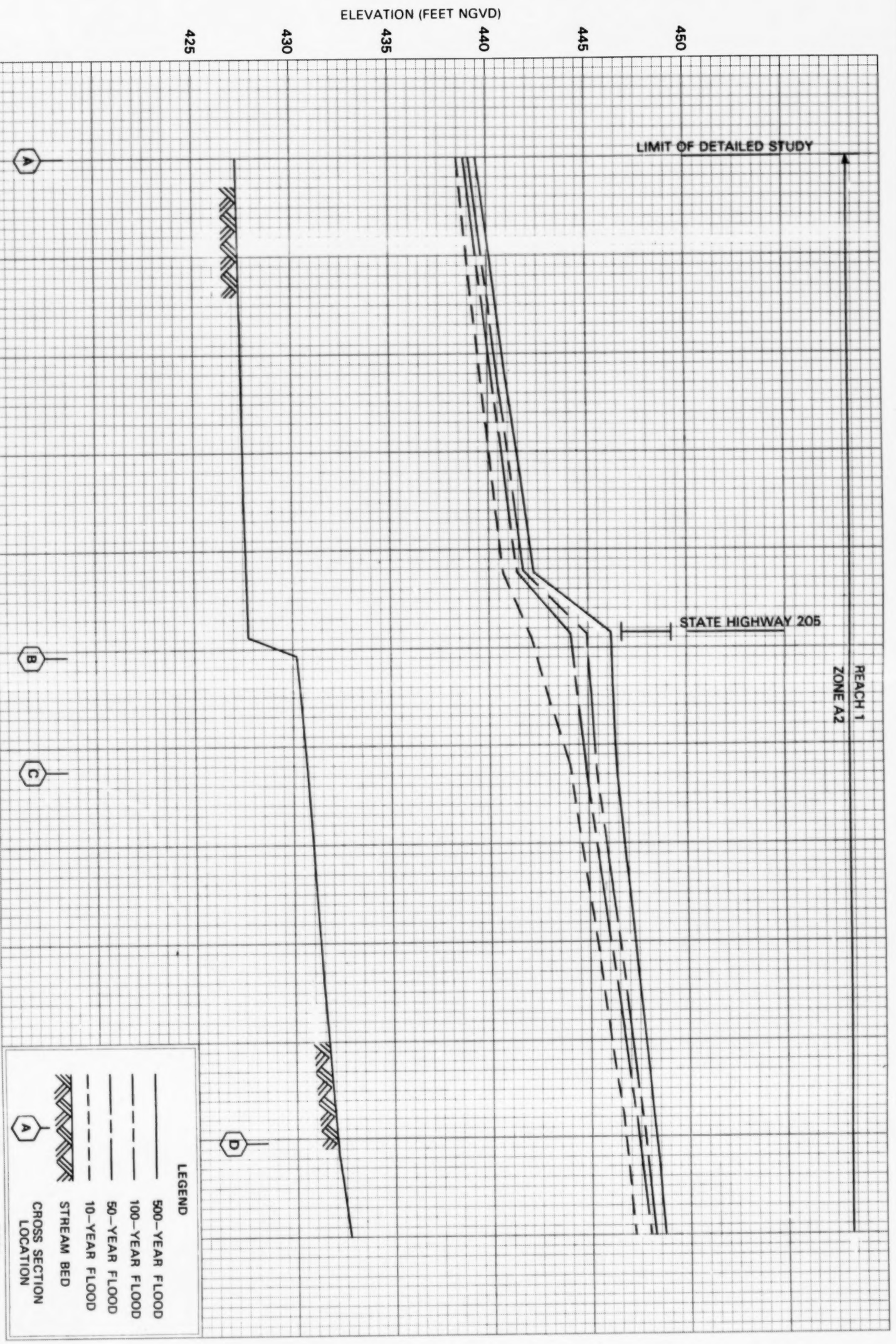
FLOOD PROFILES

RUSH CREEK TRIBUTARY

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

48P

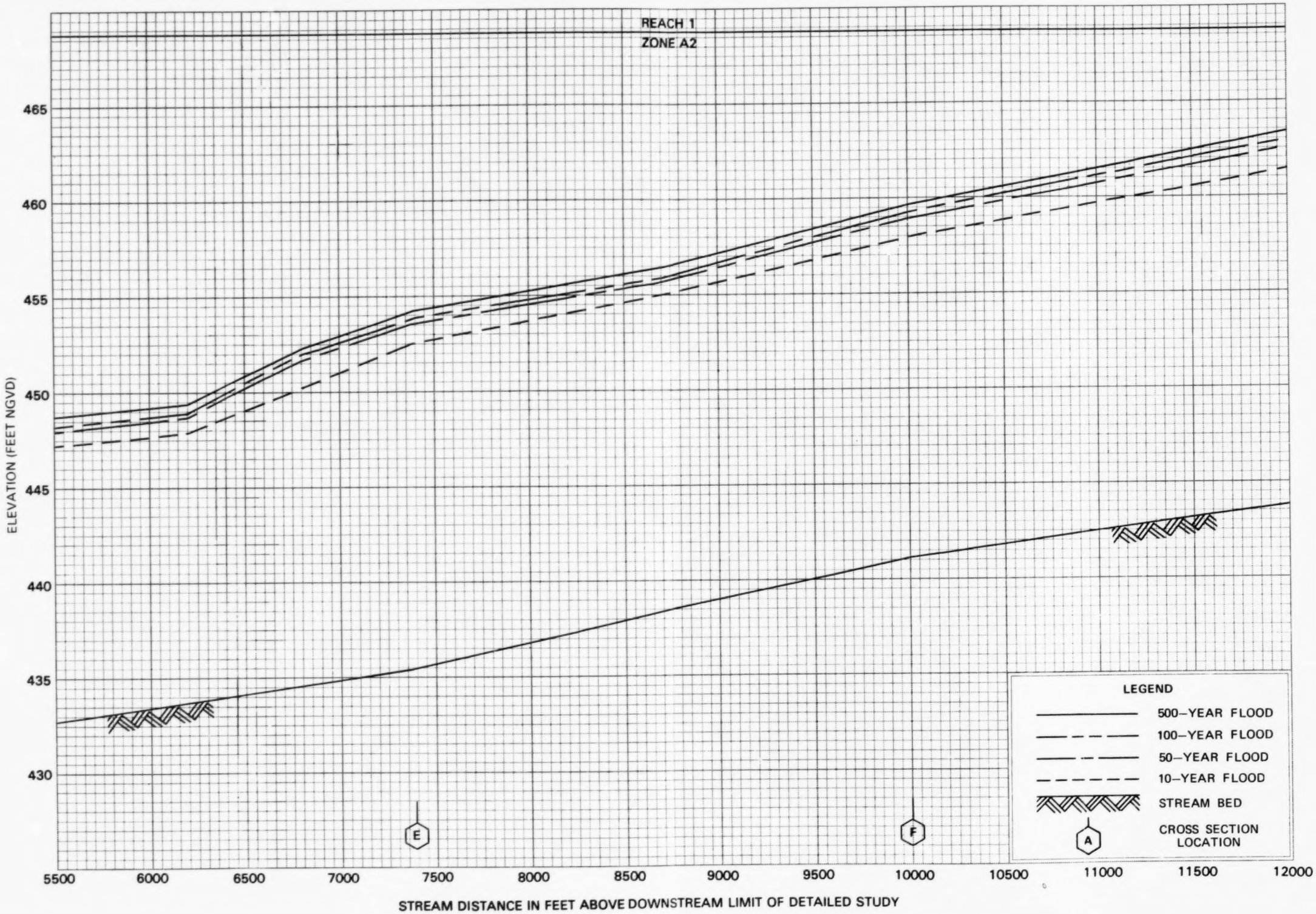


FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

CAMP CREEK



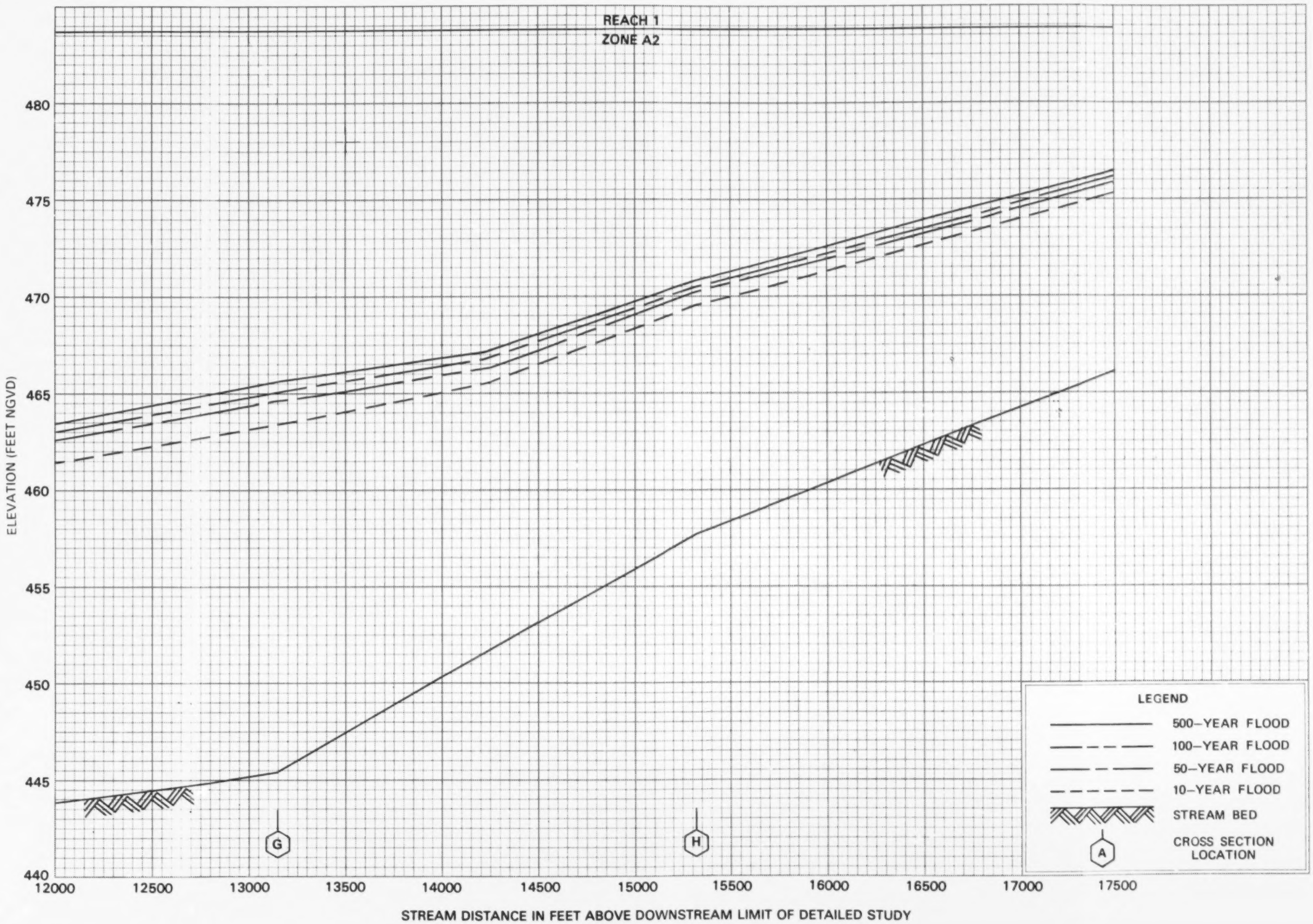
FLOOD PROFILES

CAMP CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

50P

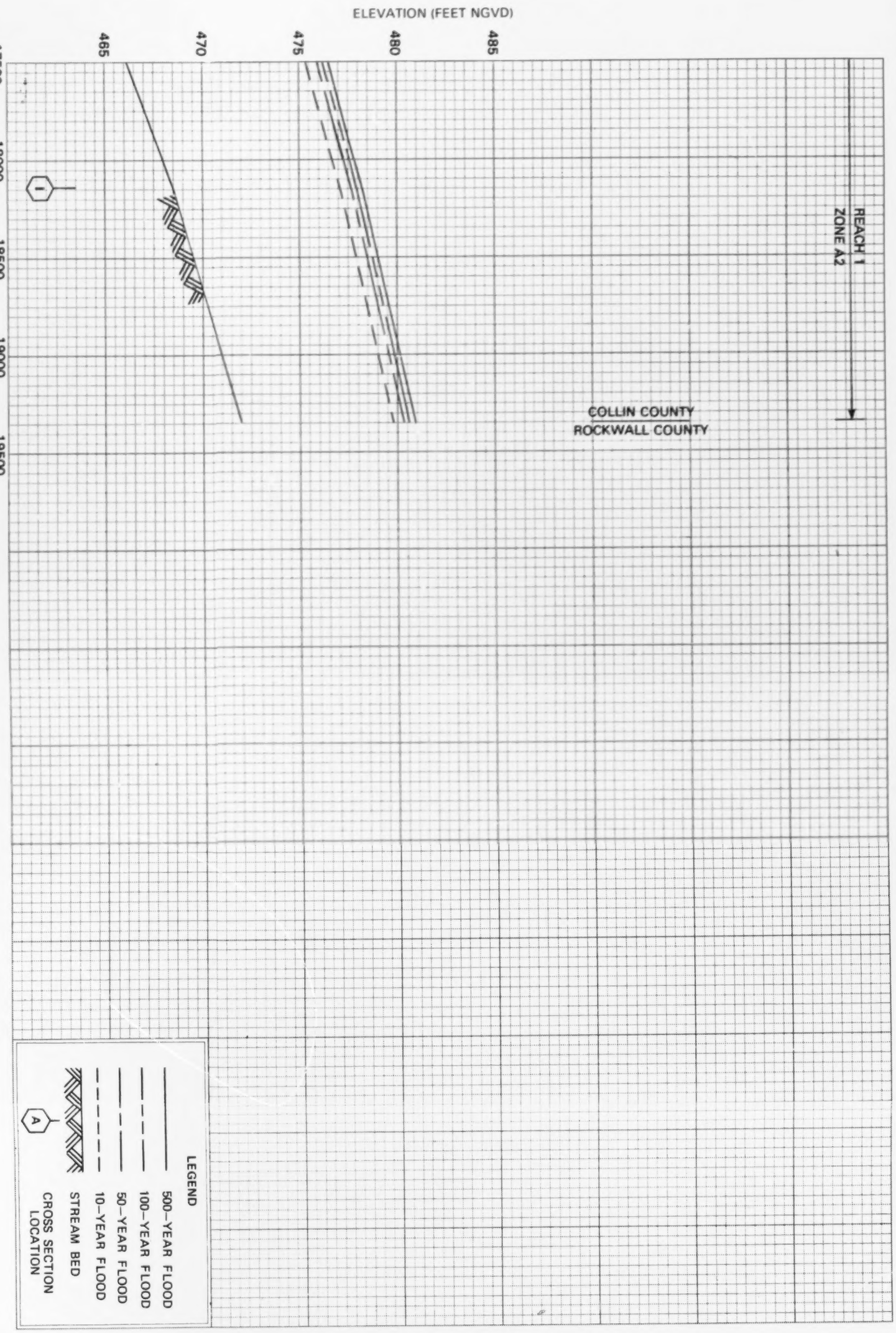


FLOOD PROFILES

CAMP CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)



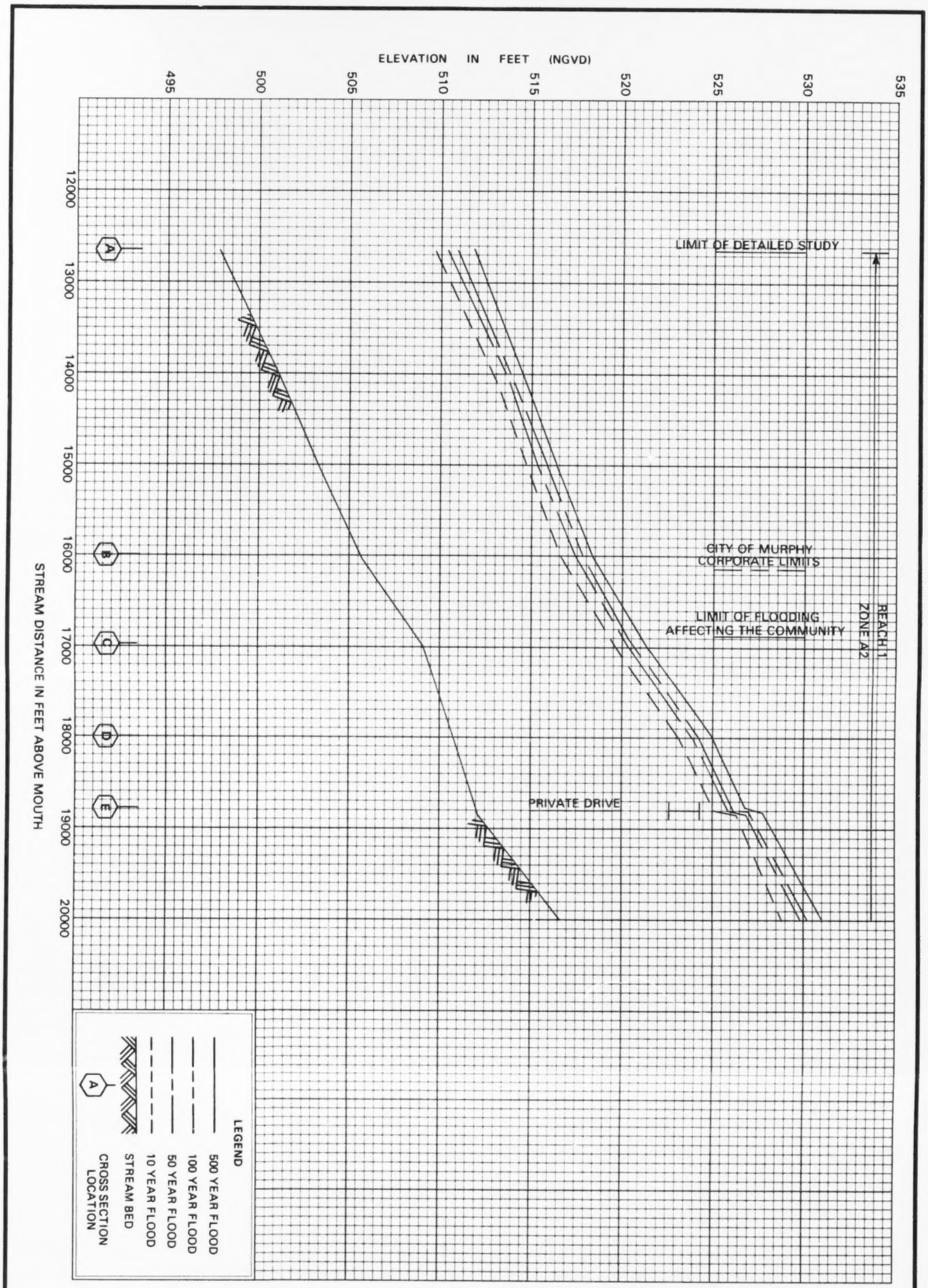
52P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

CAMP CREEK



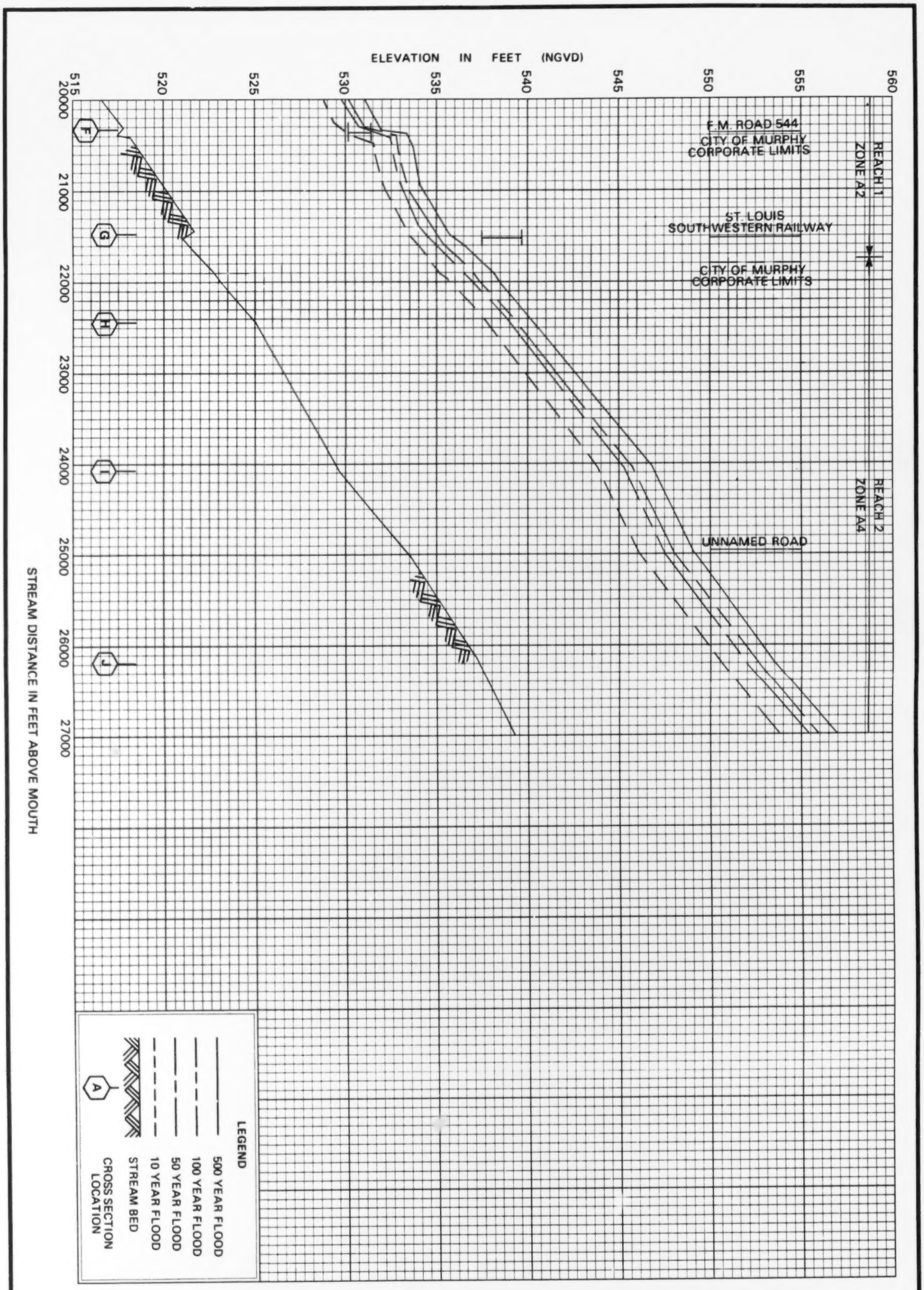
53P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

MAXWELL CREEK



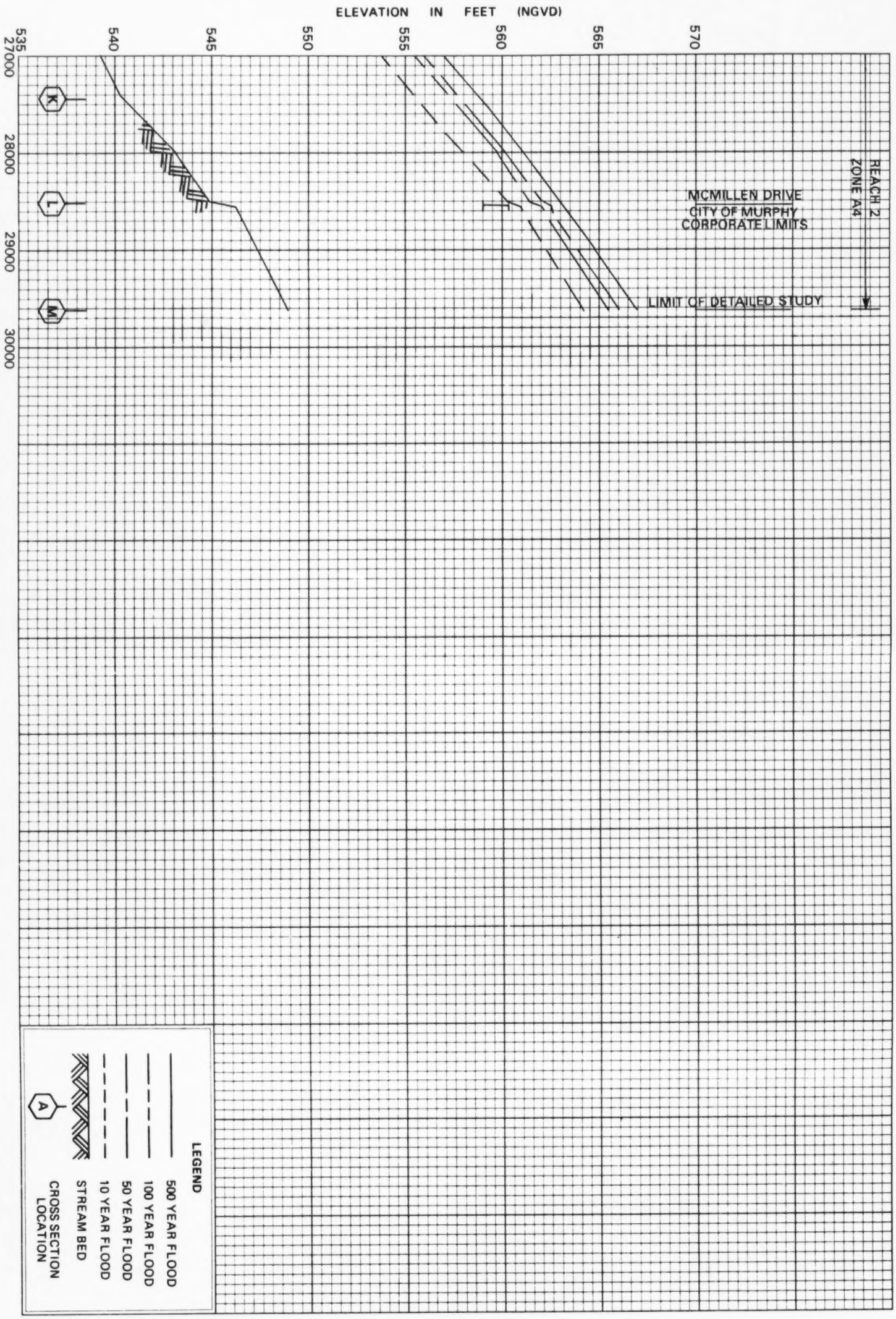
54P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

MAXWELL CREEK

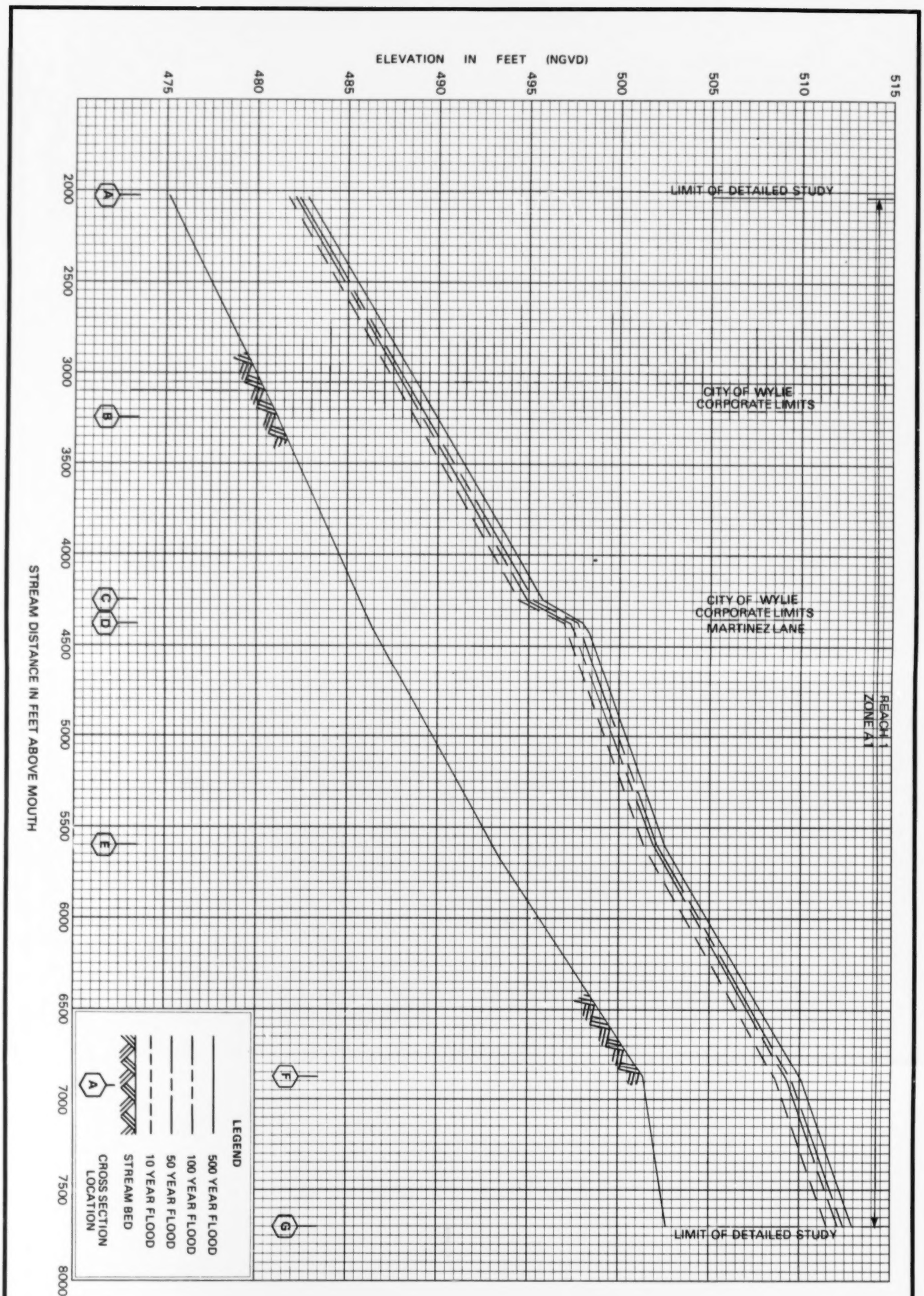


FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

MAXWELL CREEK



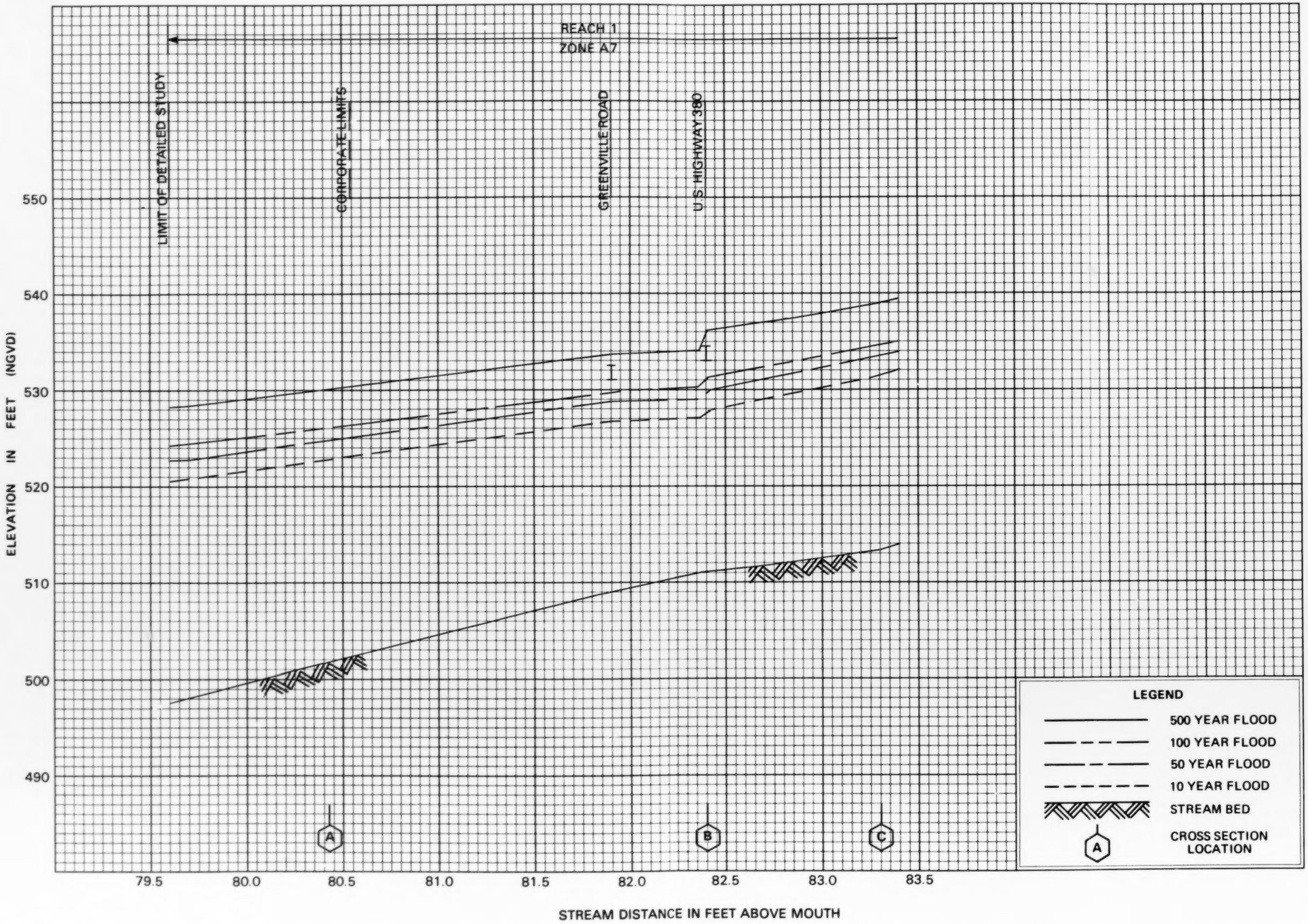
56P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

MUDDY CREEK TRIBUTARY



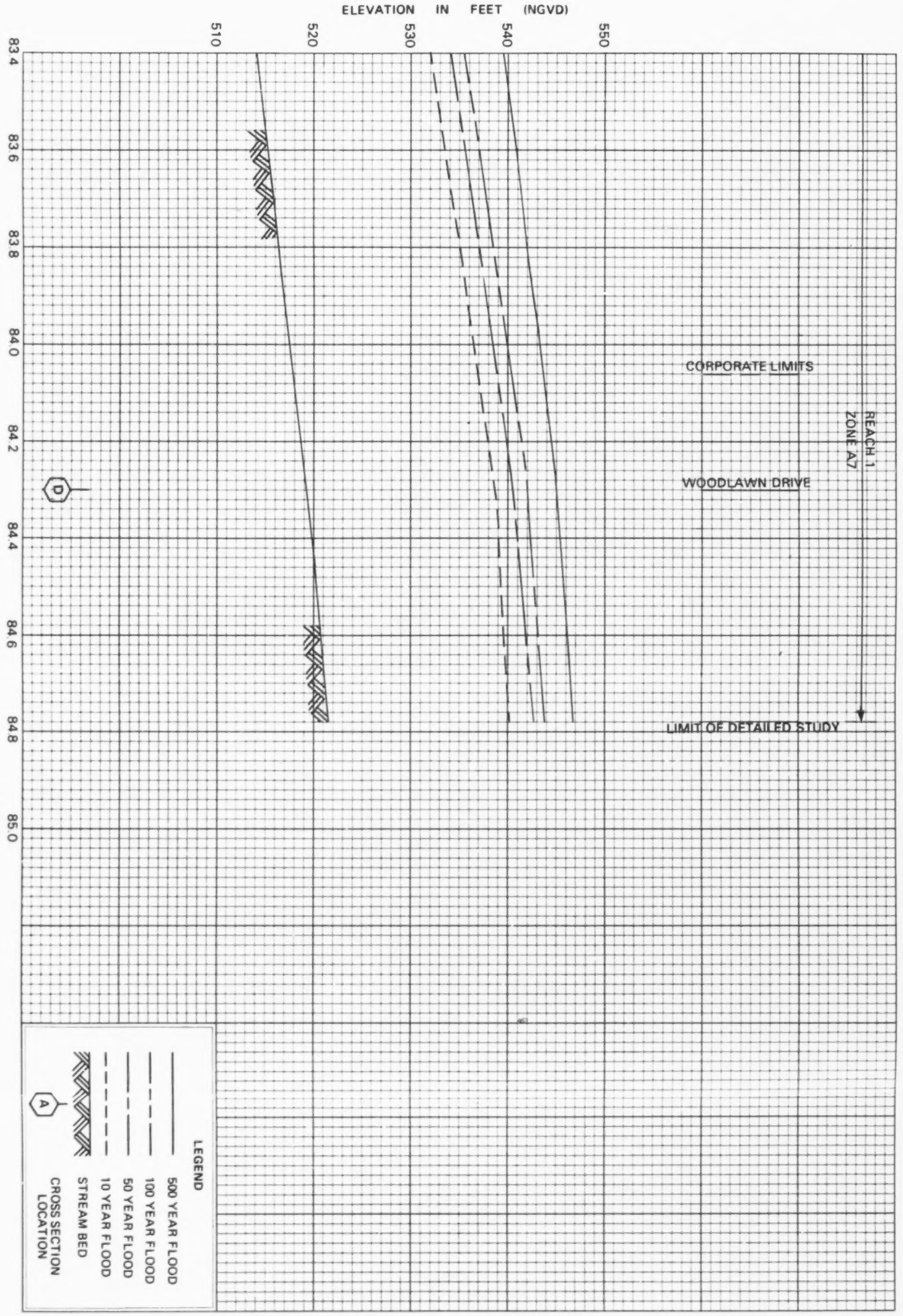
FLOOD PROFILES

EAST FORK TRINITY RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

57P



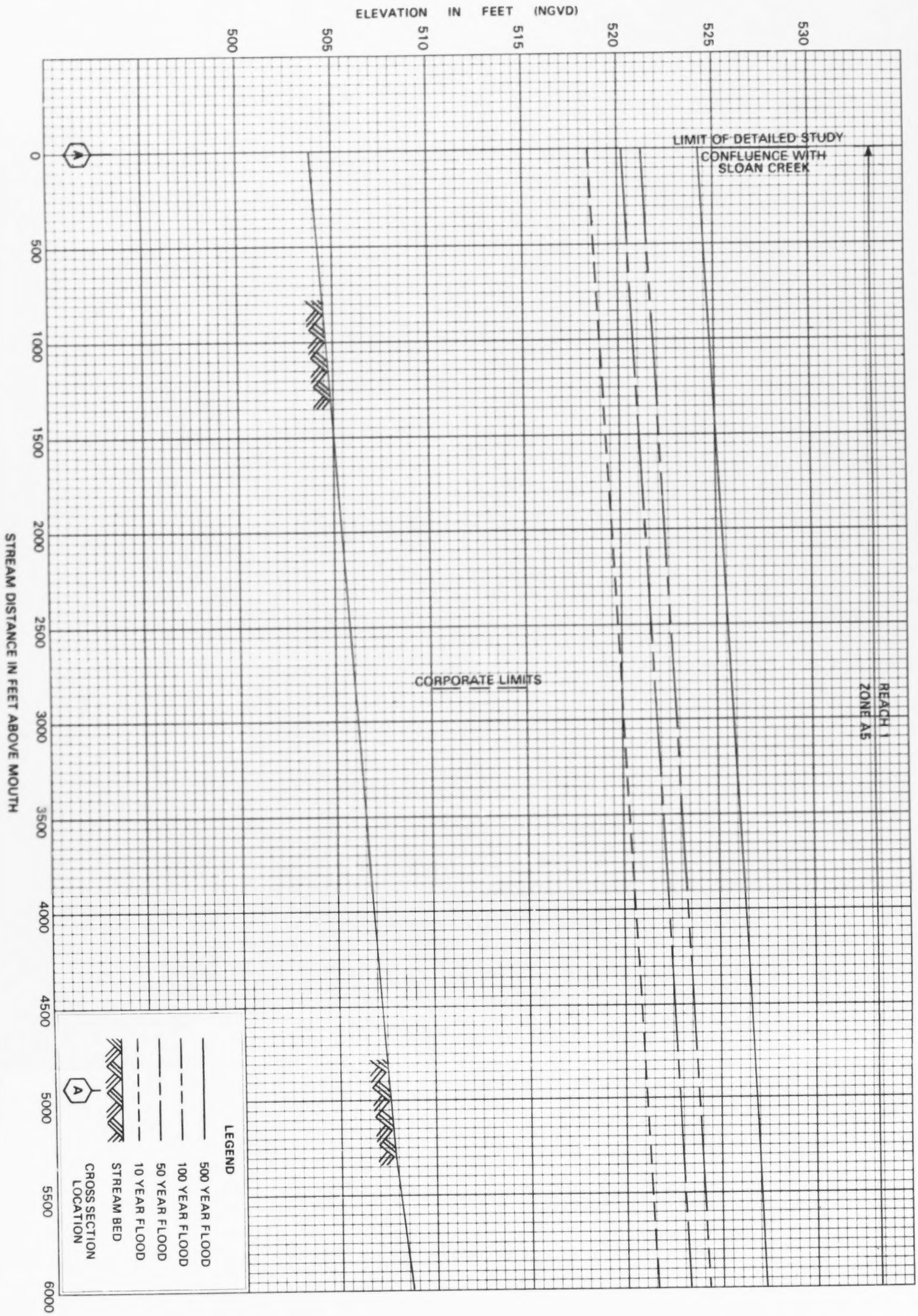
58P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

EAST FORK TRINITY RIVER



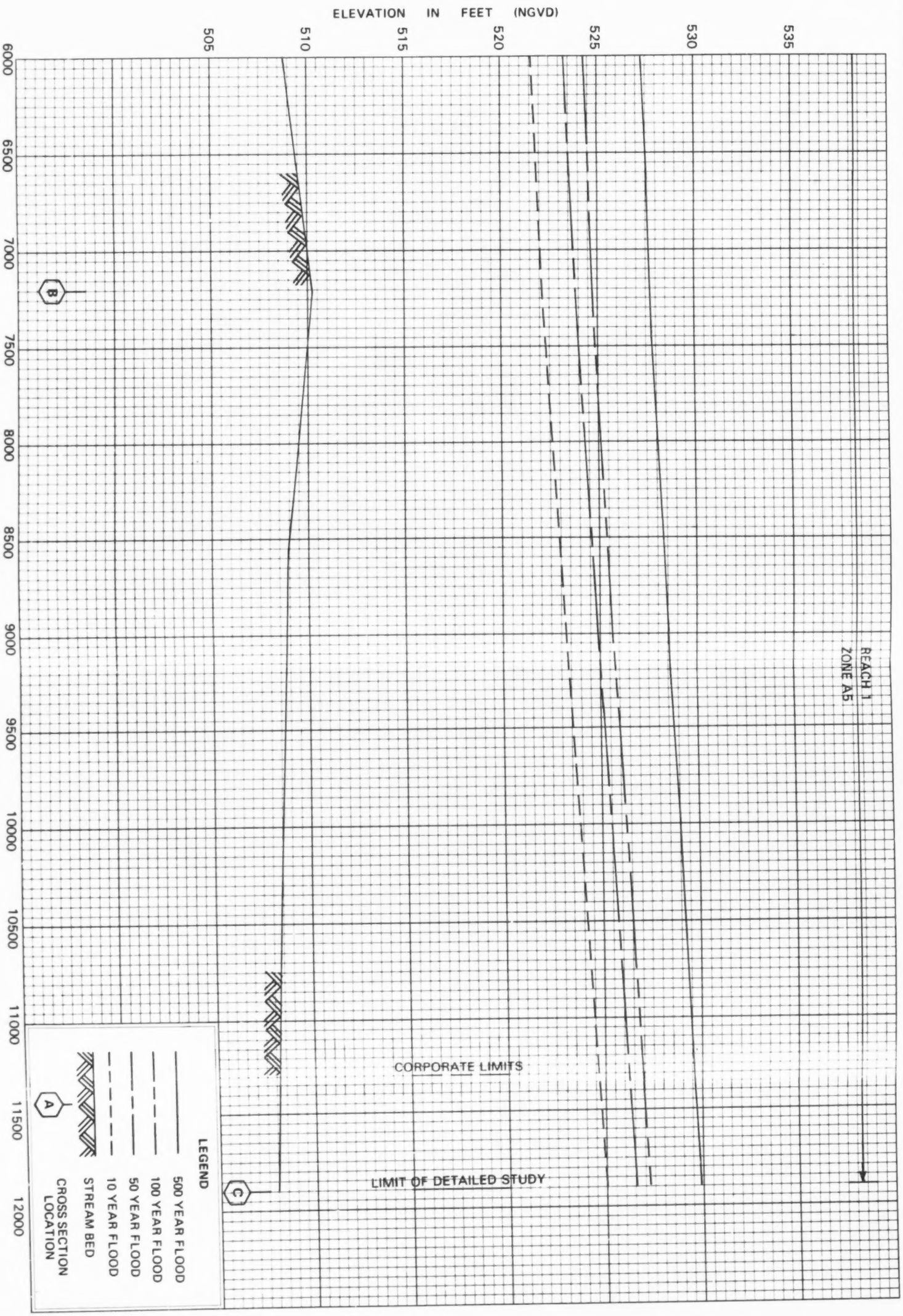
59P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

WILSON CREEK (NEW FAIRVIEW)



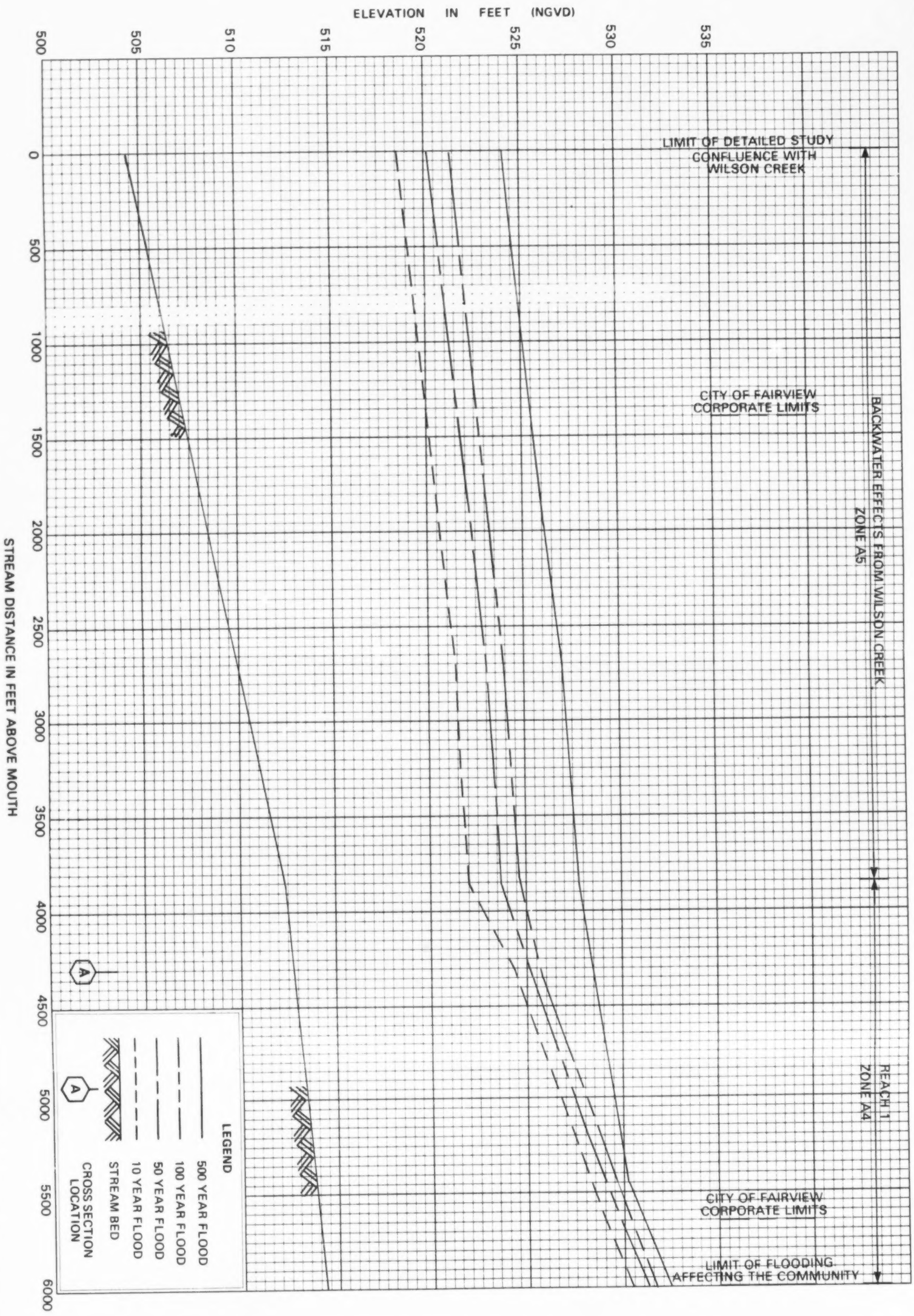
60P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

WILSON CREEK (NEW FAIRVIEW)



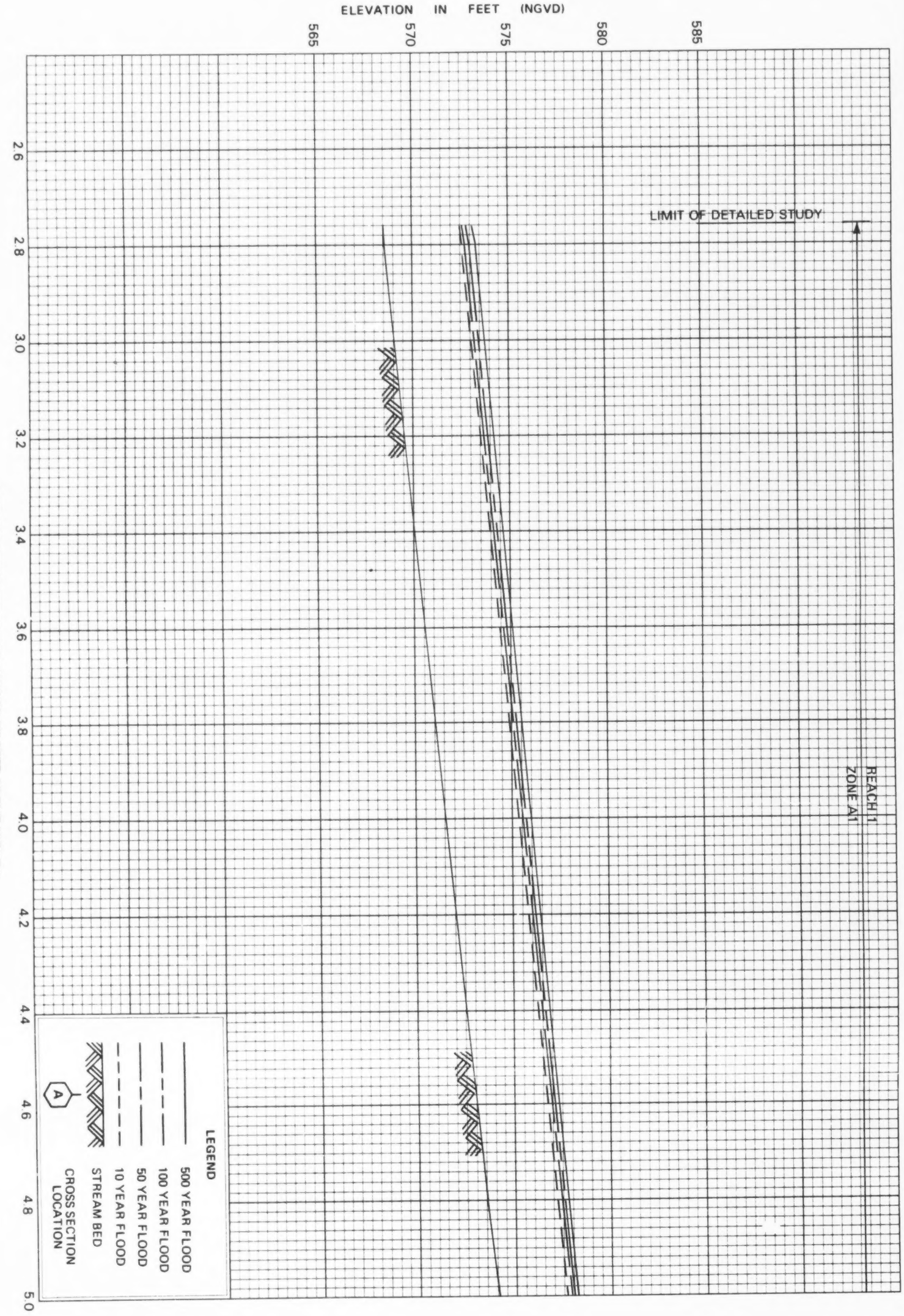
61P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

SLOAN CREEK



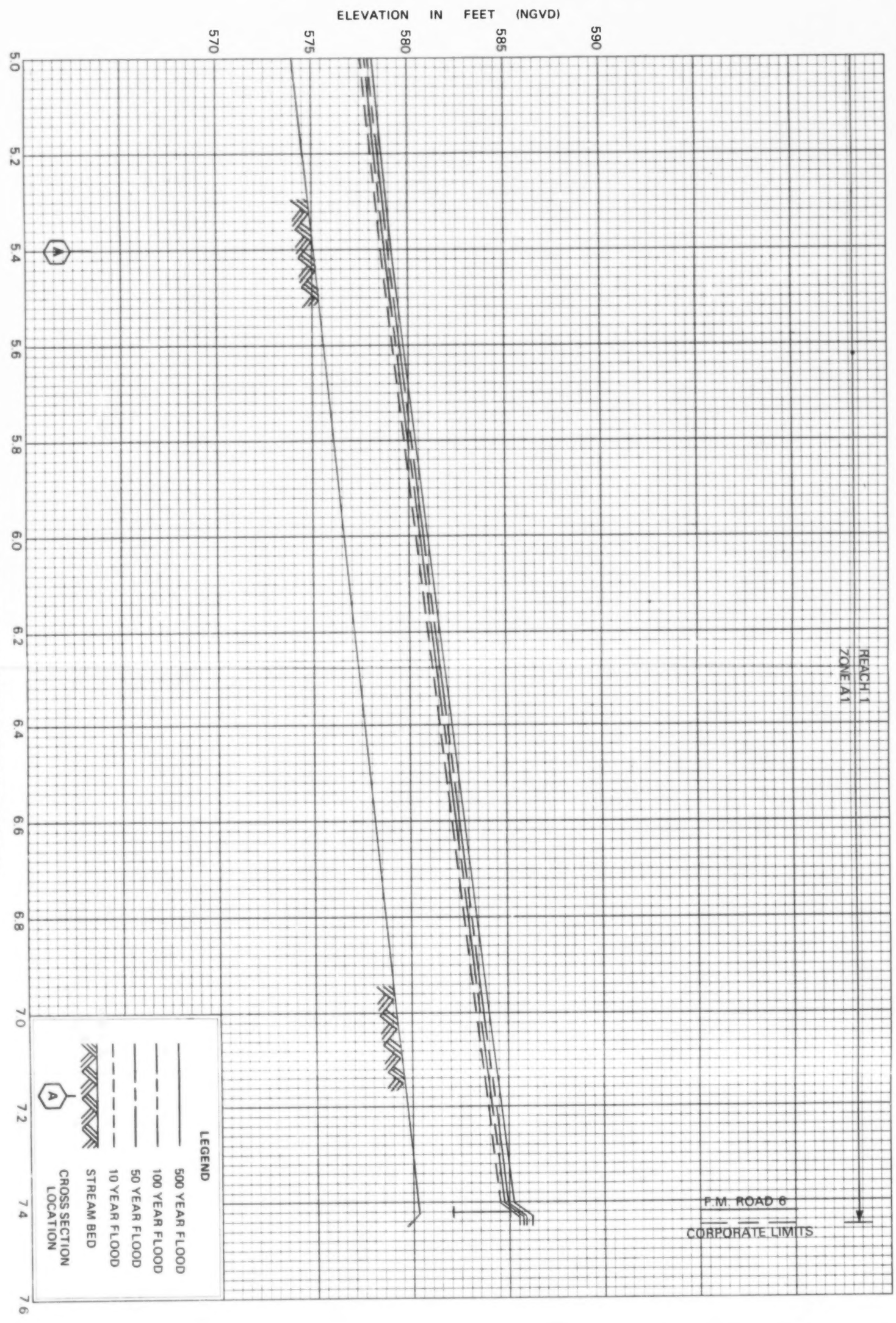
FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

SABINE CREEK TRIBUTARY B

62P



63P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

COLLIN COUNTY, TX
(UNINCORPORATED AREAS)

FLOOD PROFILES

SABINE CREEK TRIBUTARY B